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A COMPLETE  
COLLECTION  
OF THE  
MEDICAL and PHILOSOPHICAL  
WORKS  
OF  
JOHN FOTHERGILL,  
M. D. F. R. S. and S. A.

MEMBER OF THE ROYAL COLLEGES OF PHYSICIANS  
AT LONDON AND EDINBURGH;

OF THE ROYAL MEDICAL SOCIETY AT PARIS;

AND OF THE AMERICAN PHILOSOPHICAL SOCIETY:

WITH  
An ACCOUNT of his LIFE;  
AND  
OCCASIONAL NOTES;  
By JOHN ELLIOT, M. D.

---

L O N D O N :

Printed for JOHN WALKER, No. 20, Pater-Noster-Row,  
M,DCC,LXXXI.





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## P R E F A C E.

**T**HE writings of the late DOCTOR FOTHERGILL are so generally and deservedly esteemed by medical and philosophical readers, that, in giving a complete collection of them, I presume I am doing an acceptable service to the Public.

I have thought it right to arrange the different articles according to the order of time in which they were originally published, the two biographical papers only excepted, which will be found at the close of the volume.

## P R E F A C E.

In copying such of the author's essays as have been printed more than once, I have constantly made it a rule to have recourse to the latest edition; and have taken care, in a note at the bottom of the page, to inform the reader of the time or the collection in which they first appeared.

The bringing together this variety of materials, however trifling it may seem, has been a work of no little trouble; and without the kind assistance of several Gentlemen, admirers of the author and well-wishers to the work, the collection, I fear, would have been incomplete. By means, however, of their liberal communications, I flatter myself, I have been enabled to send it forth perfect; by  
which



P R E F A C E.

which I mean, that none of the author's publications on medical or philosophical subjects are omitted.

The Gentlemen to whom my thanks are due on this occasion, are MICHAEL COLLINSON, Esq. for the loan of the engraving of his father, and for several valuable communications; JAMES HORSFALL, Esq; F.R.S. to whom I am obliged for the papers on the *Origin of Amber*, the *Manna Persicum*, and *Account of some Observations made in Sibiria*, which I should perhaps otherwise have omitted, as the volumes of the Philosophical Transactions in which those essays first appeared, are now extremely scarce; and Mr. JOHN NICHOLS, for the *Account of Dr. Alexander Russell*, which, from the circumstance

3 of

## P R E F A C E.

of its never having been published, was difficult to be procured.

I cannot conclude this list of my obligations, without expressing my grateful thanks to the learned and ingenious Doctor SIMMONS, F. R. S. for the use of his library upon this and every other occasion, as well as for his friendly and judicious hints relative to the arrangement, &c. of the present work, all of which I have gladly adopted. The Doctor was likewise so kind as to point out to me some *errata* in Smellie's edition of our Author's Thesis, which I have taken care to correct in the present impression.

I have now only to add, that I have anxiously endeavoured to do  
ample

## P R E F A C E.

ample justice to my author, both in giving an accurate, and I hope not an inelegant, edition of his valuable writings; and in compiling the anecdotes of his life. Under the latter head, I have availed myself of the best materials I could procure, after a diligent inquiry among several persons who had good opportunities of being informed on the subject. If any inaccuracies should inadvertently have crept into the account, I shall be very ready to rectify them in a future edition. Any information on this subject left for me at my house, or at the Publisher's, will be gratefully acknowledged, as I wish to render the biography of so illustrious a character as complete as possible.

Carnaby-Market,  
June 20, 1781.

J. E.

*Lately published,*

By JOHN ELLIOT, M.D.

I. PHILOSOPHICAL OBSERVATIONS on the SENSES of VISION and HEARING; to which are added, A TREATISE on HARMONICAL SOUNDS, and an ESSAY on COMBUSTION. 8vo. price 3s. 6d. sewed.

II. ESSAYS on PHYSIOLOGICAL SUBJECTS. 8vo. price 1s. 6d. sewed.

*The following Work also, by the same Author, is in the Press, and will speedily be published in 8vo.*

ELEMENTS of the BRANCHES of NATURAL PHILOSOPHY connected with PHYSIC.

---

T H E  
L I F E  
O F T H E  
A U T H O R.

**D**R. JOHN FOTHERGILL was born in the year 1712; in the neighbourhood of Richmond in Yorkshire. His father, who professed the principles of Quakerism, and who from an anecdote \* related of him would seem to have been a man of some weight with his Brethren, followed the business of a Brewer, and had several children. The eldest son, who died a few years

\* The anecdote alluded to is introduced in the account of our Author printed in the Westminster Magazine, and is as follows: " In the year 1734 one John Fothergill, probably " the Doctor's Father, and Joseph Storr, took a very active " part in the contested Election for the County of York, and " signed a circular Letter to the Quakers, lamenting that some " of them had voted *inconsistent with unity and good report*, " and recommending to their favour Sir Rowland Winn and " Cholmondley Turner, two of the Candidates."

before our Author, distinguished himself as a preacher among the Quakers. John, the subject of our present inquiry, was educated at the seminary belonging to those of his profession, and at a proper age put apprentice to one Mr. Barclay, an Apothecary, then residing at Bradford, who afterwards removed to London, and lived at the corner of Featherstone-Buildings. With this Gentleman he continued during the term of his indentures; at the end of which he went to Edinburgh, where he took the degree of Doctor of Physic, in the year 1736. His inaugural Thesis was entitled, "*De Emeticorum Ufu in variis Morbis tractandis*," 4to. and has lately been republished in a Collection of Theses, in two volumes, by Smellie.

From Edinburgh he passed over to Leyden, where he made only a short stay; and after visiting Aix-la-Chapelle, and the Spa, returned to England.

Having qualified himself for the practice of his profession, he came to town, about the year 1740; and took a house in White-hart Court, Lombard Street, where he continued during the greater part of his life; and where he acquired and established both his fame and fortune. It has been supposed that he owed his success in a great measure to the novelty of his character; but the fact is, that at that time there were two other physicians of the same



same religious persuasion as himself; a peculiar address and superior talents were no doubt the causes to which he owed his superiority. At his first arrival in London, and for some time after, his finances would not allow him to keep a carriage; he was therefore obliged to attend his patients on foot.

In the year 1744, he was admitted a Licentiate of the College of Physicians, at London; and about the same time elected a Fellow of the Royal Society. In the year 1748, he published his pamphlet called “An Account of the Sore Throat attended with Ulcers.” To this piece, which is entitled to great praise, and has been translated into almost every European language, he owed a considerable extension of his practice. The malady of which it treated was at that time extremely fatal in this kingdom, particularly in London; and the Physicians of this country, considering it as a new disease, differed greatly as to their method of treating it. It is now pretty generally acknowledged, that the late Dr. Leatherland was the first who happily suggested the proper mode of cure. The late Mr. Chandler, F. R. S. in his Treatise on a Cold, has given a very circumstantial account of this matter, which, as it cannot but be interesting to the medical reader, we shall relate in his own words:

“ In January, 1740, upon the unexpected death  
“ of a child under my care, carried off by this  
“ disease, (i. e. the putrid sore throat) and that  
“ within a few hours after such favourable ap-  
“ pearances as seemed to promise a recovery; and  
“ upon its seizing another in the same family, im-  
“ mediately afterwards; I made my request to the  
“ parents, for leave to call in some able Physician  
“ to it; repeating to them what I had before de-  
“ clared, that I was utterly at a loss how to ac-  
“ count for the death of the first; and that there  
“ was something in the whole of the case quite  
“ new and unknown to me. The person fixed on  
“ to both our satisfactions was Dr. Leatherland.  
“ This very learned and sagacious Physician, upon  
“ the narrative I gave him of all that had passed  
“ in the first child’s case, and of the manner in  
“ which the second was seized, immediately pre-  
“ saged a like fatal event to this last as had hap-  
“ pened to the former; which presage proved a  
“ true one in every circumstance foretold. The  
“ Doctor, as he then told me, on the occasion of  
“ the illness and death of the two sons of the late  
“ Right Honourable Henry Pelham, which fell out  
“ in the latter end of the preceding year, 1739;  
“ and of the alarm it caused over all this great  
“ City, both from its novelty and fatality; had  
“ been employing his care and pains in turning  
“ over ancient and modern writers to see if he  
“ could

“ could trace out any footsteps of this remarkable  
 “ and terrible disease; and after long search ha d  
 “ been so happy as to discover the identical dis-  
 “ ease circumstantially described in the Spanish  
 “ writers: *And from all I know, or have ever heard,*  
 “ *I believe it to be a matter out of question, that it is*  
 “ *to Dr. Leatherland we are indebted for this disco-*  
 “ *very, and for the knowledge of the true method in*  
 “ *which it ought to be treated.\**”

Should it appear strange that no notice was taken  
 by Dr. Fothergill of the Gentleman to whom he  
 was indebted for the ground-work of his Treatise,  
 it is necessary in point of justice to observe, that  
 the Pamphlet being shewn to Dr. Leatherland before  
 its publication, he desired all mention of him might  
 be omitted, as he had not quite satisfied himself  
 concerning the proper mode of curing the disorder.  
 But in the later editions of the work, after the death  
 of Dr. Leatherland, our Author acknowledges  
 his obligations to that respectable Physician.

The uniformity of a professional life is seldom  
 interrupted; it therefore furnishes few particulars  
 worthy of being recorded. The transactions of  
 one day seldom differ from those of another. In  
 Dr. Fothergill's case, perhaps, there was as little

\* Chandler's Treatise of the Disease called "A Cold."  
 8vo. 1761. p. 55.

variety as ever fell to the share of any one man. His popularity continued undiminished as long as his health and strength would allow him to attend on his patients, and during a long series of years his diligence was unabated. In this period he acquired great wealth, part of which he employed in gratifying his taste for VIRTU; some to the encouragement and promotion of Letters\*; and much to the relief of the indigent and deserving.

The following anecdote, related of him by a Gentleman to whom he was well known, reflects too much honour on him to be omitted.—A friend of his, a man of a worthy character, who has at

\* Among other persons patronized by Dr. Fothergill was Anthony Purver, originally an unlearned Quaker mechanic, who had been brought up a shoemaker, with no other education than a very slender and imperfect knowledge of his native tongue. Being of a serious turn of mind, he resolved to examine the religious sentiments and principles which he had imbibed in his youth, and in the course of his enquiries found himself much embarrassed by the different translations and explanations of scripture. This determined him, though late in life, to study the original languages. He began with Hebrew, and in a very moderate compass of time made himself competent master of that and other oriental languages which are most useful to a critical knowledge of the scriptures. He afterwards learned Greek, and at last Latin. His progress in these affords a striking instance of the power of application, and how far a determined resolution may carry a man of common understanding in literary improvements. The fruits of Mr. Purver's studies were a new and literal translation of all the books of the Old and New Testament, with notes critical and explanatory, in 2 vols. folio, printed in the year 1765, entirely at the expence of Dr. Fothergill.

this

this time an income of about one hundred pounds a-year church preferment, was, in the earlier part of his life, seated in London upon a curacy of fifty pounds per annum, with a wife and a numerous family. An epidemical disease, which was at that time prevalent, seized upon his wife and five of his children : in this scene of distress he looked up to the Doctor for his assistance, but dared not apply to him, from a consciousness of his being unable to reward him for his attendance. A friend, who knew his situation, kindly offered to accompany him to the Doctor, and give him his fee. They took the advantage of his hour of audience, and after a description of the several cases, the fee was offered, and rejected ; but a note was taken of his place of residence. The Doctor called assiduously the next and every succeeding day, till his attendance was no longer necessary. The Curate, anxious to return some grateful mark of the sense he entertained of his services, strained every nerve to accomplish it ; but his astonishment was not to be described, when, instead of receiving the money he offered, with apologies for his situation, the Doctor put ten guineas into his hand, desiring him to apply to him without diffidence in future difficulties.

In 1754, he was chosen Fellow of the Royal College of Physicians at Edinburgh, to which he



was a considerable benefactor. He was likewise one of the earliest members of the American Philosophical Society instituted at Philadelphia; and in 1776, when a Medical Society was founded at Paris, by the King of France, our Author was one of a select number of foreign Physicians whom the Society thought proper to honour with their Diploma.

In the contest between the Fellows and Licentiates of the College of Physicians, Dr. Fothergill took an active part, and subscribed five hundred pounds towards bringing it to a legal decision. When all thoughts of law proceedings were laid aside, the Licentiates continued to assemble once a month for the sake of reading medical papers, and conversing on the prevailing diseases, and other subjects of their profession. Upon the death of Sir William Duncan, Bart. our Author was unanimously elected to be their President, and he continued in this office till his death. He was seldom absent from their meetings; and his uniform endeavours to render this institution a source of professional harmony, and at the same time of public utility, raised him high in the esteem of every member.

Ever anxious to promote the interests of his profession by extending our knowledge of diseases,



eases, he united himself with a select number of ingenious Physicians, for the most part men of extensive public or private practice, in collecting materials for a work of which five volumes have appeared under the title of *Medical Observations and Inquiries*, a performance known and esteemed in every country where medical science is successfully cultivated. By the contents of the present volume the reader will perceive how largely our Author contributed to that excellent collection.

A man of his distinguished abilities and mild disposition could not fail to acquire the esteem of his peaceful brethren, the Quakers; and accordingly he was for many years looked up to as one of their most valuable members, and was frequently appointed by the Meeting to which he belonged, to draw up and sign the annual letter\* to the Friends at their general assembly at Whitsuntide. He likewise drew up and presented the congratulatory address of the Quakers to his present Majesty on his accession to the throne, which he managed very ingeniously, avoiding the peculiarities of speech to which those of his sect are so much addicted.

\* The last letter which he wrote on an occasion of this sort, drew upon him a severe attack from a Writer in the *Gentleman's Magazine*.

To pass through life perfectly free from censure is the lot of few. Perhaps no man ever deserved it less than Dr. Fothergill; but an unfortunate dispute with a person of his own religious persuasion exposed him to the ill-natured reflexions of many of his own sect, as well as of the public at large. We shall easily make it appear, that this obloquy was perfectly unmerited on the side of our Author. The circumstances alluded to were as follows: In the year 1766, one Samuel Leeds, an illiterate person, who had been brought up to the trade of a brush-maker, was admitted by the University of Edinburgh to the degree of Doctor of Physic; and on his coming to London soon afterwards, being espoused by several leading persons amongst the Quakers, was chosen Physician to the London Hospital. Soon after his election, one of his colleagues, in a conversation with Dr. Fothergill, happening to mention Leeds's success, the Doctor replied, "Take care he does no mischief." It was not long before Leeds gave sufficient marks of his ignorance to alarm the Governors; and what had dropped from so respectable a person as Dr. Fothergill might perhaps not a little tend to convince them of their precipitancy in electing a Physician to their Hospital so unqualified for the duties of it. They therefore made a resolution, "that no Physician should continue to officiate in  
" that Hospital who had not passed an examination  
" at

“at the College of Physicians.” Dr. Leeds now saw himself reduced to the necessity of either resigning his post in the Hospital, or of presenting himself to the College. He determined to adopt the latter alternative, was examined, and rejected. The Censors with great candour had advised him to postpone his examination another year, if he thought himself not sufficiently prepared; but he would not listen to their advice. The expression that had escaped our Author, with regard to this unfortunate person, having come to his knowledge, he made it the foundation of an accusation which was brought before his own Society. These inoffensive people, who are averse to the litigious proceedings that vex and ruin so many of their fellow-citizens, referred the charge, after their usual manner, to a certain number of arbitrators. Five persons were appointed for this purpose, and three of the number awarded £.500 damages to Dr. Leeds, after refusing to hear Dr. Fothergill’s principal evidence. The two other arbitrators with great propriety protested against the award; and after much altercation in the Society, Dr. Leeds moved the Court of King’s Bench to shew cause why the rule for the recovery of the damages should not be made absolute. Lord Mansfield, after hearing the Evidence and Counsel on the part of Dr. Leeds, refused to hear Dr. Fothergill’s Counsel; because, he observed, the Evidence

dence on the part of Dr. Leeds's arbitrators was sufficient to prove the illegality and injustice of their own award: the learned and noble Judge further added, that Dr. Fothergill did no more than his duty, in saying what he was charged with; and that he would not have acted as an honest man, had he said less. This he illustrated by a facetious story, in which he had himself acted a similar part with a discarded servant.

After this disgraceful transaction, Dr. Leeds, for some little time, kept an apothecary's shop in Bishopsgate-street, and from thence retired to Ipswich, where he died about the year 1773.

So far was our Author from possessing a jealousy at the appearance of a rival in physic amongst those of his own religious persuasion, that Dr. Chorley, a Quaker Physician, was admitted into his own house, and resided in it during Dr. Fothergill's retreats to Lea-Hall; and at length, after being introduced into considerable practice, died under the roof of his Patron. It might, indeed, truly be said of Dr. Fothergill, that he was a liberal promoter of merit, without any regard to the religious tenets of its possessor.

As Dr. Fothergill advanced in years, he began to wish for some relief from the laborious attendance

ance which he had been used to give his patients; and with that view he quitted his house in the City, and resided in Harpur-street, Red-Lion-Square. He also furnished himself with a pleasant retreat at Upton, which he used to visit on Saturday during the winter, sometimes more frequently in spring and summer. For several years before his death, he was accustomed to retire to Cheshire, in the month of July, to Lea-Hall, a pleasant estate in the neighbourhood of Middlewich, which he rented of Sir John Leicester. He never had a lease of this house, yet he expended a considerable sum of money in repairing and embellishing it, and the grounds belonging to it. He generally remained at this place till the latter end of September. During his residence here, he took no fees, but used to go once a-week to an inn at Middlewich, and prescribe gratis to all who applied to him. In this retreat, he used to enjoy the company of a small number of friends, ride every day on horseback, and write a great number of letters to his correspondents. He had very early acquired a taste for Natural History, which he acknowledged to have been much heightened and improved by his friend Peter Collinson. In proportion as the profits of his practice encreased, he indulged this taste. His garden, at Upton, was very justly reckoned one of the first botanic gardens in Europe. Every plant that seemed likely



likely to be of use in physic, or manufactures, was procured at any expence, and cultivated with the greatest attention. He had correspondents in every part of the world, who were continually furnishing him with new specimens of plants, shells, and insects. He was at great pains to procure accounts of the *Cortex Winteranus*, and of the tree that produces the *Terra Japonica* \*.

\* The former of these is reprinted in the present Collection; the latter, which was written by Mr. James Kerr, and published in the *Med. Obs. and Inq.* vol. v. is prefaced by the following Address from our Author to the Medical Society:

“GENTLEMEN,

“YOU will excuse me I hope for introducing to your notice, an exact description of the tree that produces the extract called *Terra Japonica*. Hitherto it has rather been guessed at than known, from whence this substance derives its origin; the best of our writers on the *Materia Medica* have given us very little of certainty concerning it.

“The figure here exhibited is copied from a drawing taken on the spot, compared with a good specimen transmitted with it, of the leaves, flowers, pods, and seeds. The several parts of the flower have been examined by the microscope, and delineated with great accuracy: and every doubt concerning the origin of this substance will hereby be removed. It will give you some satisfaction to know, that some of the seeds have vegetated; and that perhaps we may be able to propagate the plant, so far as to send it to our West India Islands, where it will probably flourish, and yield us, by the labour of our own people, an Extract in greater perfection than can be expected from a process attended with so little care in the East Indies. If I have trespassed too much on your plan, by introducing so many articles of Natural History, I must intreat your indulgence for the present. It seems to be doing some benefit to science, to remove ambiguity, and prevent all possible mistake.



Among other services which Dr. Fothergill rendered the Public, one of the most important to the present as well as to future times, was the establishment of the Seminary at Ackworth, in Yorkshire, of which he was the original projector, and to which he was a considerable benefactor. Dr. Hird says, "On his return from Cheshire, through Yorkshire, in the year 1778, he did me the favour of being my guest a few days, during which time he was visited by many of his friends in those parts. In one of these interviews, the conversation turned on an institution at Gildersome, a small establishment for the education of poor children amongst the Society. The Doctor was enquiring into its state and management, and how far it might serve as a model for a larger undertaking. A just description being given of it, with the following remark, that not only this, but all others, however laudable the motives from which they took their rise, must fail of

take. Your works, Gentlemen, pass into the hands of many ingenious medical persons who traverse the most distant parts of the globe. Instances like these prompt them to observe; and it is from the labour of such, that this part of science, a perfect knowledge of the *Materia Medica*, has hitherto, and must still derive its greatest improvements.

"This account was drawn up by an attentive, able naturalist, assistant surgeon to the civil Hospital at Bengal, and transmitted by the learned and worthy lieutenant colonel Ironside to

J. FOTHERGILL."

success,

success, without a constant superintending care, and unremitting attention to the first great object of the institution; this idea was exemplified by the then present state of the Foundling Hospital at Ackworth, which, although originating from the most humane principle, and erected at a vast expence, was, from repeated inattentions to the first design, in danger of dilapidation, and ready for public sale." The relation struck the Doctor forcibly. "Why may not this, said he, serve the very purpose I am in pursuit of?" To be short, the building and an estate of thirty acres of land were purchased, improved, and furnished by subscription.—The Doctor set a generous example by his own contribution, and an endowment by his will in perpetuity.

Those who have been most successful in imparting health to others, are not always equally fortunate in their applications to themselves. The temperance and regularity of Dr. Fothergill might seem to promise a long life, free from the miseries of disease. He had not, however, that happiness. About two years before his death, he had been afflicted with a disorder which he apprehended, though without foundation, to be an irregular gout. It terminated in a suppression of urine, from which he obtained a temporary relief; but it  
returned

returned again with greater violence, and, notwithstanding every effort of the Medical Gentlemen who attended him \*, put a period to his existence on the 26th day of December 1780, in the 69th year of his age. On dissection, the disease appeared to have been occasioned by a schirrous enlargement of the prostate, which compressed the neck of the bladder so as to prevent the introduction of a catheter. His remains were, on the 5th of January following, deposited in the burial ground at Winchmore-Hill, being attended by more than seventy coaches and post-chaises filled with Friends, who seized this last occasion to pay a tribute of respect to the memory of the deceased.

Dying a bachelor, he devised the bulk of his fortune to a maiden sister, who resided with him for many years before his death. He likewise bequeathed handsome legacies to his other relations and friends. His library, which consisted of an excellent collection of books in Physic and Natural History, particularly the latter, has lately been sold by auction; and Dr. Hunter has purchased his collection of shells and corals of his executors for 1200l.; our Author, by his will,

\* Dr. Warren, Dr. Watson, Dr. Reynolds, and Mr. Pott.

having given directions that it should be appraised after his death, and that Dr. Hunter should have the refusal of it at five hundred pounds under the valuation.

The person of Dr. Fothergill (says Dr. Hird) was of a delicate, rather of an extenuated make. His features were all character. His eye had a peculiar brilliancy of expression; yet it was not easy so to mark the leading trait, as to disengage it from the united whole. He was remarkably active and alert, and, with a few exceptions, enjoyed a general good state of health.

His dress was remarkably neat, plain, and decent, peculiarly becoming himself; a perfect transcript of the order, and, I may add, of the neatness of his mind. He thought it unworthy a man of sense, and inconsistent with his character, to suffer himself to be led by the whim of fashion, and become the slave of its caprices.

At his meals he was remarkably temperate; in the opinion of some, rather too abstemious, eating sparingly, but with a good relish, and rarely exceeding two glasses of wine at dinner or supper; yet, by this uniform and steady temperance, he preserved

preserved his mind vigorous and active, and his constitution equal to all his engagements.

The character of Dr. Fothergill will receive no injury, considered either as a professional man or a member of society, if compared with any person of the present age. In the former capacity, he was learned, careful, and assiduous; in the latter, humane, benevolent, and attentive to the wants and miseries of mankind. In the exercise of the duties of his calling, he spent almost the whole of his life; and had very little time to devote to pleasure or amusements, had he possessed any inclination for such relaxations. He had, however, a considerable propensity to Natural History, and spared no expence to obtain whatever was scarce, curious, or valuable in those pursuits to which he had turned his attention. But, tho' devoted to business, to science, and to literature, he was not negligent to the political system of his country, and entertained sentiments of Liberty and the British constitution which did honour to him as an Englishman. He sincerely felt for the distresses of those who were involved in the calamities arising from the present unnatural war; and is said to have contributed very liberally to the relief of many of the unfortunate sufferers. Where so many good qualities resided, it would be invidious to point



out trifling, inoffensive foibles. Some such fell to the share of our Author. They were, however, more than compensated by his virtues; and the Public, as well as his friends, hath sustained, by his death, an irreparable loss.

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# C O N T E N T S.

---

- I. *D*issertatio Medica Inauguralis de Emeti-  
corum Usu in variis Morbis Tractandis 5
- II. *Remarks on the Neutral Salts of Plants,*  
*and on Terra Foliata Tartari* 81
- III. *Essay upon the Origin of Amber* 90
- IV. *Observations on the Manna Persicum* 97
- \*IV. *Observations on a Case published in the last*  
*Volume of the Medical Essays, &c. of*  
*recovering a Man dead in Appearance, by*  
*distending the Lungs with Air. Printed*  
*at Edinburgh, 1744* 110
- V. *De Diaphragmate Fisso, & mutatis quorun-*  
*dam Viscerum Sedibus, in Cadavere*  
*Puellæ decem Mensium observatis, Epis-*  
*tola* 120
- VI. *An*

# CONTENTS.

- VI. *An Account of some Observations and Experiments made in Siberia, extracted from the Preface to the Flora Sibirica, sine Historia Plantarum Sibiricæ, cum Tabulis Æri incisis. Auth. D. Gmelin. Chem. & Hist. Nat. Prof. Petropoli 1747. 4<sup>to</sup>. Vol. I.* 141
- VII. *An Account of the Putrid Sore Throat. Part I. Of the Sore Throat attended with Ulcers, as it appeared in Spain, Italy, Sicily, &c.* 167
- Part II. Of the Sore Throat attended with Ulcers, as it has appeared in London, and Parts adjacent* 198
- VIII. *Of the Use of the Cortex Peruvianus, in Scrophulous Disorders* 253
- IX. *A Letter to the Medical Society, concerning an Astringent Gum brought from Africa* - - 274
- X. *Experiments on mixing Oils, resinous and pinguious Substances, with Water, by Means of a Vegetable Mucilage: In a Letter from Mr. James Bogle French, Apothecary in London, to Dr. John Fothergill. With Remarks by the same* 282
- Experiments on mixing Oil and Water by means of a Mucilage* 283

Experiments

# C O N T E N T S.

<i>Experiments on mixing Oils, &amp;c. by Attrition</i>	287
<i>Remarks on the preceding Experiments, by J. Fothergill, M. D.</i>	296
XI. <i>A Letter relative to the Cure of the Cough</i>	307
XII. <i>Observations on the Use of Hemlock</i>	315
XIII. <i>Remarks on the Hydrocephalus Internus</i>	336
XIV. <i>Of the Cure of the Sciatica</i>	355
XV. <i>Of the Use of Tapping early in Dropsies</i>	364
XVI. <i>Remarks on the Use of Balsams in the Cure of Consumptions</i>	373
XVII. <i>Remarks on the Cure of Consumptions</i>	390
XVIII. <i>Some Account of the Cortex Winteranus, or Magellanicus, by John Fothergill, M. D. F. R. S. with a Botanical Description by Dr. Solander, F. R. S. and some Experiments by M. Morris, M. D. F. R. S.</i>	406
<i>Experiments on the Cortex Winteranus, or Magellanicus, by Dr. Morris</i>	421
XIX. <i>Of a painful Affection of the Face</i>	427
XX. <i>Of the Management proper at the Cessation of the Menfes</i>	442
XXI. <i>The Case of a Hydrophobia</i>	470
<i>Additional Directions for the Treatment of Persons bit by Mad Animals</i>	495
XXII. <i>Case</i>	

## C O N T E N T S.

- XXII. *Case of an Angina Pectoris; with Remarks* 508  
 XXIII. *Farther Account of the Angina Pectoris* 529  
 XXIV. *Further Remarks on the Treatment of Consumptions, &c.* 537  
 XXV. *Observations on Disorders to which Painters in Water-Colours are exposed* 557
- 

## S U P P L E M E N T.

- I. *Some Account of the late Peter Collinson, Fellow of the Royal Society, and of the Society of Antiquaries, in London; and of the Royal Societies of Berlin and Upsal. In a Letter to a Friend.* 607  
 II. *An Essay on the Character of the late Alexander Russell, M. D. F. R. S. read before the Society of Physicians the 2d of October, 1769* 635
- 

## DIRECTIONS for placing the PLATES.

Head of Dr. Fothergill to front the Title	
Cortex Winteranus	p. 415
Head of Peter Collinson	607



DISSERTATIO MEDICA  
I N A U G U R A L I S,  
D E  
Emeticorum Ufu in variis Morbis  
tractandis.

Q U A M,  
FAVENTE SUMMO NUMINE,  
Ex Auctoritate Amplissimi SENATUS ACADEMICI,  
Et nobilissimae FACULTATIS MEDICÆ decreto,  
P R O G R A D U D O C T O R A T U S,  
SUMMISQUE IN MEDICINA HONORIBUS ET PRIVILEGIIS  
RITE AC LEGITIME CONSEQUENDIS;

Eruditorum examini subjicit  
J O A N N E S F O T H E R G I L L,  
ANGLO-BRITANNUS.

Ad diem 13. Augusti, hora locoque solitis,

E D I N B U R G I \*.

---

M, DCC, XXXVI.

\* The Edinburgh Edition of this Inaugural Dissertation was in Quarto. It has since been republished by SMELLIE, in his THESAURUS MEDICUS, Vol. I.



Viris praeclaris,

Praeceptoribus suis plurimum colendis,

JOANNI RUTHERFORD,

Med. Doct. atque in Academia Edinburgensi

Medicinae theoreticae et practicae

Professori :

ANDREÆ ST. CLAIR,

Med. Regio,

Medicinae theoreticae et practicae in eadem Academia

Professori :

ANDREÆ PLUMMER,

Med. Doct. atque ibidem Medicinae et Chemiae

Professori :

ALEXANDRO MONRO, R. S. S.

Et in eodem Lyceo Anatomiae et Chirurgiae

Professori :

Nec non

CAROLO ALSTON,

Med. Doct. et Reg. Botanices

Professori :

Ob plurima in se collata beneficia,

Hoc specimen inaugurale,

Quod exegit mos laudandus Academiae,

Omni quo par est obsequio et exiimatione offert

JOANNES FOTHERGILL,



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# DISSERTATIO MEDICA

I N A U G U R A L I S,

D E

Emeticorum Ufu in variis Morbis  
tractandis.

---

P R O E M I U M.

**Q**UUM corporis vigor, mentis acumen, salus perfecta praesens, futurae stabilimen, vitae constantis et integrae dulcedo, magna ex parte ventriculi, visceris praenobilis, fata sequantur; nihil arduum aut molestum ducebant tum veteres tum recentiores medici, quo minus in vado esset tantae utilitatis negotium. Experientia gnari facti fuerunt, si sospes esset ventriculus, minus metuendum esse reliquis; eo autem male se gerente, incolumem diu haerere totius corporis fabricam non posse. Indies quoque compertum est, quod arthritis, hydrops, scorbutus,



būtus, tabes, infania, febresque pessimae (et si quae graviora mala supersint, et hominibus infensa magis), rarius attollunt capita, illaeso interim ventriculo : Et si forte nascantur aliunde, saeviunt eo magis, quo magis a sanitate recedit princeps haec animalis officina. Hinc itaque liquet, quantum naturae ministris incumbit, ejus incolumitati enixe prospicere. Ipsius autem ventriculi, ejusque contentorum vitia, tum et morbi exinde nati, quorum fibrae altius haerent, opem saepe poscunt, quae depletione tentatur ; neque ad culpam horum delendam, prognatasque labes eradicandas, felicius adhibetur saepissime remedium, quam evacuatio per vomitum facta. Hac unica intentione adeo celebrata fuit emesis apud veteres medicinae patronos ; ut etiam sanis, si sani perstare voluissent, hoc medicinae genus praescripserit \* Hippocrates, quod saepius repetendum suavit, licet aspera et intractabilia admodum essent medicamenta vomitoria veteribus familiaria ; nec certe sine decumbentium fastidio, vel medicorum sollicitudine, porrigenda.

\* Hippocrates de diaeta, lib. 3. et alibi passim.

## P A R S P R I M A.

1. Est autem vomitus ea ventriculi, diaphragmatis, et muscutorum abdominalium actio, qua illius contenta, quasi inter praela compressa, vi magna sursum per os rejiciuntur. Horum siquidem viscerum contractione sursum urgentur omnia in abdomine contenta viscera, constringitur inde pylorus, dum quae in ventriculo haeret materies, illius \* et ambientium vi muscolari in orificium ejus superius impressa, illud dilatat, et per contractas oesophagi fibras longitudinales facilem sibi parat exitum.

2. Stimulus quicumque validus, ventriculo inditus, ejusque nervis applicatus, actionem hanc incitare potest, ob commercium quod obtinent ventriculi nervi cum eis, qui musculis abdominalibus et diaphragmati inferviunt.

3. Copia etiam ingestorum nimia atque moles, licet haud alio, saltem parum ingrato

\* Wepfer de cicuta aquatica, cap. 15. hist. 1.

potiantur aculeo, nauseam, deinde vomitum excitare queunt ; cujusmodi sunt, aqua egelida, aromatibus imbuta, suaviaque, nec non dapes illae quae gustui summopere blandiuntur, avide et sine norma deglutitae ; quicquid porro nervos ventriculi irritat, aliave aliqua ratione aequabilem horum liquidi fluxum perturbat admodum, vomitionem ciēt ; qualia sunt capitis contusio vel concussio vehemens, jactatio in nave vel rheda inassuetis, valida imaginatio, sive rei cujusdam injucundae memoria ; haec enim aliaque similia delicatulos summo urgent quandoque fastidio vomituque.

4. Attamen compertum est, objecta omnia, stimulo licet praedita, haud aequo certo vires suas in ventriculum vicinaque exerere, sed nunc per unum ex emunctoriis, nunc per alterum, promovere secessum : Quaedam itaque quae fere perpetuo vomitum producere constabat, quaeque prae caeteris huic muneri obeundo maxime accommodata esse docebat experientia, in unicum hunc usum seposuit vetustas. Ἐμετικά haec appellabant Graeci, VOMITORIA Latinis audiunt.

5. Mancus vero fuit horum apud veteres catalogus, licet amplius; pauca enim vomitoria cognita habuerunt, quae non acerba admodum et inclementia, vel lenia prorsus et invalida, comperiuntur; si modo simplicia eadem, eisdem insignita titulis, apud nos hodie prostant, ac apud istos olim: Uti cuique patebit, antiquorum scripta evolventi. Veratrum aliquando lethale fuit, infida quoque aliorum actio. Non mirum itaque, si morbo graviore torqueri, vel ad aliud quodcunque subsidii genus confugere maluerint aegroti, quam durum et immite, vel lenius, at incertum, saepe infructuosum, experiri medicamen: Quo contigit ut absterritus quandoque aeger, medicum abhorreret; medicus pariter medelam, quae tanta pollicita est, propinare dubitaret: Unde uterque incommodum haud leve saepius tulit. Atque licet Hippocrates rationem intellexerit temperandi emetica; alii tamen multi, minus solertes, spe sua saepe exciderunt. Neque chemia, quae tot praeclara medicamenta detexit, ulla fere suppeditat emetica, quae tennellis et delicatoribus tuto dare licet: Quin et dolebat suo tempore Sydenhamus, deside-



rari adhucdum emeticum *tutum*, et *satis interim efficax*, quale in celebri radice ipecacuanha passim hodie experiuntur practici. Hujus instituti non est, singula, quae vi emetica pollent, recensere, horum saltem classes ratione virium indicasse sufficiat.

6. In *lenia*, *vehementiora*, et *fortissima* vomitoria, distinguendi hunc evacuantium ordinem, mos quibusdam obtinuit : Nec quidem inepte ; diversa enim ista simplicia, quae ad vomitum ciendum hodie usurpantur, commode satis sub triplici hac serie dispertiri possunt. Nulla tamen fides efficaciae, sensibus patefactae, odori saporive videlicet, habenda est : Sed experientiae soli horum credenda distributio.

7. Emetica quae *lenia* appellantur, gemini sunt ordinis ; *1mo*, Recensentur ea quae mole sua, vel irritamine levi, moli unito, stomachum lacescunt ; qualia sunt, aqua tepida, viscosa, saccharata, mellita, oleosa, salita, jura pingua, infusa theae viridis, cardui benedicti, florum chamaemeli, aliaque ejusmodi plura ex diversis plantis aromaticis elicita. *2do*, Huc pertinet



pertinet emetici cujusdam fortioris dosi refracta, quae stimulo gaudet tam valido, ut nauseam, vomendique conatum unum alterumve provocare possit, nec amplius urgeat. Ex salium numero haec plerumque petuntur, quae humoribus gastricis statim solvuntur, et celeriter undiquaque dispersa, applicantur nervis, mox sursum rejiciuntur, penitusque epotis liquidis eluuntur soluta, ut brevi quiescant omnia. Filum per oesophagum tractum, irritatio gulae, per pennam oleo madesactam; idea fastidiens, inassueta navis agitatio, currus per loca aspera ducti conquassatio, animi denique pathemata leviora huic ordini consentiunt. Novissime tamen memoratas causas quibusdam vomitiones inducere perquam violentas haud diffiteor; plerisque vero non item, neque eos diu et fortiter simul molestare solent.

8. *Fortiorum* classis fit ex prioribus § 7. n. 2do, aucta saltem dosi, vel causa; aut ex iis quorum firmior compages, et hinc tardior effectus, sed vehementior: Namque emissae particulae vellicantes, paulatim in cryptas  
pli-

plicasque ventris rugosi sese insinuant, nervulis adhaerescunt, molestiam creant, augentque, nec ingeminato vomendi nisu, velatis sedibus excutiuntur, usque donec eorum vires repetito opere decoquantur; hinc emesis protractior, nec non vehementior. Medicamenta pleraque sursum purgantia, hodierna praxi maxime usitata, huic classi addenda sunt, uti, v. g. asarum, ipecacuanha, radix raphani rustici, semen sinapis, scilla, horumque variae praeparationes, combinationes, ex vegetabilibus. Ex metallicis sales quidam chemiae progenies, ut vitriolum martis, et salia vitriolica: Sed palmam prae aliis meruisse videntur, quae ex venere acquiruntur, sal, sc. cupri ejusque tinctura. His addendi sunt tartarus emeticus, et quorundam ex serie sequenti imminuta dosis.

9. *Fortissima* nuncupare licet ea, quae ars dogmatica et maxime rationalis, ob saevos et atroces effectus saepius expertos evitat, quaeque non sine imminente machinae periculo exhiberi posse perennis docuit observatio, quae rarius, nisi ab audaci medicastro, vel in morbo quodam acerrimum poscente auxilium,

a me-

a methodico praescribuntur : Licet inter hanc et praegressam classẽ, exquisitas metas apponere, difficile quidem sit. Plurima hujusmodi suppeditat vegetabile regnum : Eminent imprimis καλὼ purgantia, quorum amplificata dosis, praesertim si ex resinosis desumatur, crudeles vomitus frequenter excitat. Resinosa etenim humoribus nostris parum miscibilia sunt, indissoluta cavo ventriculi accrescunt, summos concitant dolores, spasmos, et immanes per superiora depletiones : Evincunt hoc cruciatus isti, qui aegrotis superveniunt post ingestam jalapi refinam, aut ejusmodi quodpiam, non rite per attritum solutum, vel miscibile alia quavis ratione factum ; dum forte nativo suo sapone fraudantur humores inquilini, et aquosa pituita plena sunt omnia. His annumerari possunt, helleborus albus, tithymali species nonnullae, nicotiana, et plantae aliae permultae *deleteriae* dictae : Classẽ augent, stibiata acriora, et illa quoque emetica quae dat mercurius, una cum plerisque metallicis venenatis.

10. Ex tradita haecenus descriptione liquet, *imo*, Vomitus excitari non posse, sine quodam

dam aculeo (intelligi velim omne id, quod liquidus vitalis fluxum sive nervorum actionem mutare queat) systematis nervosi, regioni cui-dam applicato. 2do, Quod ex illius in nervos, horumque in musculos, § 1, actione, necessa-rio fit contentorum gastricorum evacuatio. Denique, 3tio, Quod haec neutiquam evenire possint, sine partium quarundam compressione forti, aliarum ingenti concussione, et insigni corporis universi motu. Lenissimae etiam vomitioni haec semper adsunt: Crescunt ut extenditur emetici potentia, et adaucto stimu-lo, usque in fabricae ruinam evehi possunt.

II. Quum itaque praefatae conditiones nunquam non Έμεσις conjunguntur, quum ab hisce omnino pendeant pleraeque ex iis mutationibus quae ab emeticis sperantur, producuntur; effectus horum ex triplici illa causa nascentes, quinam sint, rimaturus, his quaesitis responsa expediam; scil. Quid valeat emeticum, quatenus est stimulus? Quatenus evacuet? Quatenus denique vi sua mechanica totum corpus afficere queat?

## P A R S   S E C U N D A.

*De Emeticorum Ufu, a Stimulo suo derivato.*

12. Nulla adhuc instrumenta in corpore animali invenit anatome, quae stimulorum objecta propriae existimari possunt, praeter ipsos nervos; qui effectus horum, quales quales sint, primario patiuntur, aliasque ad partes propagant, uti multiplicibus constat experimentis: Haec enim docent, quod non modo in ipso puncto cui irritans applicatur, mutatio accidit; quin et ad nervi fontem, terminum, ramorum pullulantium fines derivatur effectus, nec non ad furculos, oppositam corporis plagam lustrantes, a causa licet diversa.

13. Effectus imprimis sunt, energiae vitalis ad partem ita affectam accessio major, in aliis ejusdem diminutio; et perdita demum aequalis lenisque ejus divisio, cursu magis accelerato, turbatoque simul. Haec vero omnia, gradus respectu, diversa futura sunt, et plus minusve conspicua, prout causae lacescentis vehē-



vehementia et copia, nervorum indoles, numerus, atque moles, tegminis denique quo involuti sunt crassities, est diversa.

14. Causam hanc, five energiam, § 13. esse liquidum subtilissimum, mobilissimum, omnibusque fluidi dotibus communibus praeditum, e cerebro, jugi, leni, pacato motu derivatum in singulas corporis partes, agnoscunt plerique doctores. Nec inficias ibit, qui attente perlegerit quae de hac re scripsit \* Boerhaavius ; vel qui ordine adhuc lucidiore exposuit inclytus noster anatomiae † professor, perpenderit.

15. Neque admodum verosimile videtur, effraeno vel praecipiti quovis impetu spiritus animales unquam ita rapi, ut enormium tot effectuum causa sint, vel tot morborum essentiam constituent ; hancve in motum proclivitatem ab ingenti quadam et praeternaturali mobilitate oriri posse : Quippe quod spirituum impetus a fortibus vitae viribus solum-

\* Boerhaavii Institutiones, § 275. ad 292.

† Monro's Anatomical Treatise of the Nerves.

modo pendeat; cum tamen in nullis frequentius occurrant morbi a systemate nervoso male affecto nati, quam in eis qui opposita potentiuntur indole, laxis, scil. debilibus, et quibus vitae vires parum firmæ sunt. Legibus certe oeconomiae perquam videtur consentiens, liquidum hoc, nunc paulo celerius, nunc lentius moveri: Sed tantum interesse discrimen inter summam velocitatem, pigritiamque summam, ut sola sit hæc morborum origo, haud facile conceditur. Spirituum inaequalis distributio tumultuum plurimorum, qui nervis vitio dantur, parens esse potest, omniaque ista phaenomena, quae morbos, nervosos dictos, comitari solent, longe facilius hoc filo duce panduntur; nec alia suadet musculorum actio.

16. Pungens quodcunque fatis acre, nervo, ejusve propagini appositum, inaequabilem hanc dispersionem efficit, ut spasmi et convulsiones ad necem usque saevientes ostendunt. Peragit idem quoque compressio, in nervi cujuscunque insignioris ortum facta; aut obstructus, alia quavis de causa, spirituum per suos canales egressus, unde propinqui pleniori horum rivo lustrari debent. Hanc

augent diathesin, vel minuunt summopere diversa fluidorum et solidorum ratio, quae unicuique aetati convenit; tum et propria cuique temperies: Quo etenim tenerior aetas, quo mollior habitus, eo, caeteris paribus, promptius irritantur nervi, vel comprimuntur. Sententiam confirmat experientia. Raro enim opipare pascentes pueros, quorum sanguis spiritibus dives, et insigni praedita mollitiae cutis, inquinat contagium variolosum, si modo venenum haud fuerit mitissimum, quin excitantur contractiones horrendae: Neque raro superveniunt insultus, epilepsiae verae prorsus aemuli. Nec semper, ob egestatem liquidi vitalis, invadunt insultus hysterici, cum otiosas, et luxu solutas foeminas adoriantur magis, quam quibus fors angustior obvenit.

17. His idcirco ita positis, generalem hanc regulam licet statuere; nempe, si morbus a stimulo particulari cuivis parti applicato nascatur, huic succurrendum est, vel destructione causae stimulantis, vel alterius applicatione parti adversae; sic etenim restituto aequilibrio, solvitur morbus spasmodicus.

18. Effectus memorati § 13. nervis praecipue et musculis contingunt. Alii tamen et diversi vicinas saepe partes corripunt, uti dolor, cutis rubedo, calor; humorum affluxus, tumor; vasorum compressio, obstructio; horumque destructio, suppuratio, gangraena. Haec internis juxta et externis corporis partibus eveniunt.

19. Generales aculeorum virtutes haecenus enarratas possidet remedium de quo nunc agitur. Hoc tamen sibi fere proprium obtinet, quod emeticorum actioni certiores plerumque limites praescribere liceat, quam interno cuivis stimulantem remedio. Haec enim quandoque frangunt repagula, saeviuntque ferocius quam expedit, vel segnius agunt; dum emetici vis ad votum fere evehi vel reprimi potest, si atrocissima tantummodo excipias venena.

20. Ex dictis [§ 13. ad 20.] patet quid valeat emeticum quatenus est stimulus. Insignes equidem praestat effectus, e quibus eminent sequentes. Lenior apoplexiae species, quae ab inertem frigidaque pituita nascitur, si



modo a causa recente, nec corpore valde senili accidat, emetico prudenter exhibito saepe solvitur: Inde siquidem crassa subiguntur, excutiuntur; aperiuntur nervorum oscula, horum tramites expediuntur, incitato simul torpescientis sanguinis motu. Similes in simili paralyfi praestat effectus.

Pueris frequens est morbus epilepsia, ab acri quovis rodente nervos, eosque vellicante. Adultis saepe contingit ab eadem causa, tum et affectionibus animi gravioribus, a dolore saevo membra cruciante, a turbato spirituum fluxu, qualis hypochondriacis et hystericis familiaris est. In his casibus, si mobilis sit mali fomes, iterato vomitorio excutitur.

Membrana ista musculosa, quae tracheae segmenta cartilaginea sibi invicem adnectit, ex fibris conflatur musculosis contractilibus spasmobnoxiiis, in his praecipue quibus genus nerveum est mobile nimis. Nictu oculi saepe constringuntur fibrae, adducuntur sibi mutuo cartilagineae, pertinaciter elongationi solitae repugnant, crebros trahit spiritus aeger, avide captat auras, profunde gemit,



gemit, tandem labore fatigatus, et mox angori succubiturus, prae defectu spirituum solutum sentit spasum, explicatur pectus, et vivere de novo miser exorditur. Quod prohibet quin subito propinata dosis salis vitrioli, cupri, hujusve tincturae, quae irritando ventriculum, ciendo vomitum, spirituum iter tramitemque mutando, tumultus hosce sedet? omni certe vacat periculo.

Ubi sanguis eam nancisci indolem incipit, quae apud veteres *atra bilis* dicta est, ubi functiones naturales labascunt propter spirituum absentiam; quando quosdam tantummodo nervos iniquè petunt, hi certos duntaxat mentis corporisve actiones exercent; vix praestantius exhibetur remedium, quam emeticum certis cautelis moderatum, ut postea dicendi erit occasio.

In morbis spasmodicis, aliisque plurimis nervosi ordinis, qui proventum ab inertia et languore chylopoieticôn ducere videntur, plurimum prodesse visa sunt emetica. Chorea Viti, malum certe paucis hujusmodi

pertinacia secundum, vires tamen hujus remedii \* quandoque fatetur. Atque, licet sola vi stimulante in his morbis non juvent, ea tamen plurimum profunt, spirituum auctiorem fluxum versus organa sollicitando, quae penuriam patiuntur, quaeque exinde deveniunt morbis opportuna.

In malis denique plerisque chronicis, quum pituita crassa decesque habitum obtundit, ignavius hac obsita vibrant solida, fluida jam viscida difficiliter propelluntur, perditae vel depravatae facultates universae liquidi vitalis inopiam segnitiei vae demonstrant, uti in glutine vel acore spontaneo; emetica, licet curationem haud absolvant qua stimuli, aliis tamen remediis palmam praeripiunt; praesertim si ad reliquos vomitorii effectus respiciamus.

21. Actionis istius § 18. alter effectus est, fluidorum tenuiorum festinata secretio; quae duplici ratione comparat *Ἐρεθισμα*; primo, motum sanguinis intendit in vasis majoribus,

\* Cheyne's Essay on the Gout, p. 113. edit. 4.

horum crebriorem et fortiolem in fluida reactionem excitando, attenuationem conciliando, et hinc secessui aptitudinem; dein ipsis secretionis organis praeparationem expedit, et transitum humorum accelerat. Hinc ab eodem stimulo diversae augentur secretiones, prout diversimode in hoc vel illud organum secretorium determinatur.

## P A R S T E R T I A.

*De Emeticorum Usu, evacuando producto.*

22. Emeti effectus, quatenus evacuat, in duplicem ordinem partiri absonum haud videtur. 1<sup>mus</sup> est, Depletio ventriculi, contentis sursum rejectis. 2<sup>dus</sup>, Aliarum partium excretio aucta per conatus vomendi. Quum vero haec pro causa proxima haud agnoscat vomitorium, inter effectus quos mechanice praestat emesis commode magis recitari potest, atque evacuatio universalis appellari meretur: Altera particularis, five eorum expulsio, quae jam in ventre stabulantur, vel eousque per aculei vim pelliciuntur; vel denique per αναδρομην a viciniis in

eum advehuntur; de qua proxime sermonem instituere jubet bona methodus.

23. Nocentia per os ingesta, aut in ventriculum aliunde delatâ, promptam emetici medelam exigunt, neque ullum novit medicina potentius adjumentum, ad prolem horum morbosam radicitus exstirpandam, vel ad symptomata quaedam atrocia, fata hinc, lenienda.

24. Ex priorum numero, § 23. ex ingestis scilicet, cibi potusque in censum merito vocantur. Sors enim vitae ineluctabilis, quamdiu vitales auras carpinus, hos effecit necessarios, rationes supprimo. Et materiei diversissima indoles, ex qua comparantur alimenta, et a nostra saepissime aliena, quorundam incuria, improba aliorum ventris ingluvies, denique vetiti aut nocivi appetitus, error in escarum potuumque delectu, et mensurae justo moderamine, vitia induxerunt ventriculo multiplicia. Hinc ferax malorum progenies, stomacho ipsi crudeles minitans dolores, ultimisque vasorum anfractibus nocitura. Quae fane singulatim

latim explicare jubet inceptum, denegant autem temporis angusti limites. Et quidem eis excutiendis operam frustra navarem; quum pensum istud omni numero absolutum, vestris sub auspiciis, non ita pridem, in lucem prodiit, in dissertatione † eleganti, *de noxis ex cibi potusque usu et abusu oriundis.*

25. Copia ingestorum major justo mala parit ibi descripta; his levamen afferre solet depletio; quae, si aeger *εμεῖν*, vomitoriis facienda; hac enim ratione citissime auferitur materies ventriculum gravans, et praecavetur ne incocti alimenti reliquiarum pars quaevis in corporis interiora ducatur,

Vitiata qualitas idem petit auxilium, dum adhuc in cavo ventriculi remanet materia nociva, aut non longe ab eo propagatur. Sic, quae nativa gaudent tenacitate, majore quam quae domabilis sit per corporis vires, suum secuta genium corrumpuntur, abeuntque in ductile phlegma. Eadem res est, si expultrix ventriculi facultas praepedita sit, ut in debilibus saepe fieri testantur prac-

† Auctore Henrico Tong.



tici: Tunc enim, licet nec copia nec qualitate insigniter vitiabili gaudeant, sponte tamen labem contrahunt ingesta, natam ab ipsa mora auctamque. Hinc prodeunt acrimoniae diversae species; hinc muci et pituitae tenacis scaturigo: Quae, prout singulatim dominantur, vel conjunctim permiscentur, adjuvante hominis temperie huic illive proclivi, producunt diversa et nonnunquam plane atrocia symptomata. Sic multiplices appetitus depravationes, deletio integra, imminutio vel excessus ingens; sic vitiata, imminuta, vel sublata coctio vel incocti corruptio, haec saepe pro suis causis proximis agnoscunt.

Ex aegroto ipso facile discendum erit quid praegressum fuerit praedisponens; atque hinc patet indoles materiae, et quibus utendum remediis. Vomitoria fomitem exhauriunt, causam proximam funditus eradicant: Hisce tamen solis non fidendum, sed exhibitis roborantibus (inter haec repetito, post debita intervalla, vomitu) ima de stirpe tandem morbus reciditur.

26. Substantiae quaecunque acres, casu vel industria in ventrem acceptae, vel medicamenti vel veneni titulo, si molestia denunciaret fabricae noxam insidiari, citissime sunt expellendae, et per ea loca praecipue, quae portam dant maxime periculis immunem, qua emigret hostis, intacta aliarum partium salute. Si nulla aut parva copia tubum intestinale ingressae sunt, emeticum caeteris remediis longe praestantius, et curationem saepe absolvit; neque erit omittendum, etiamsi portiuncula tantummodo haereat adhuc in ventriculo. Classis prima § 7. amplam praebet pharmaciam, qua plurimae venenorum species debellantur et expelluntur; atque si antidoton universale sit, aqua tepesacta copiose ingesta, id forte supeditat. In delectu tamen horum prudentia opus est; expulsio quandoque haud implet vota, quin tenerae partes quibus applicantur, ab istorum injuriis tuendae, mitigandi dolores, et veneni saevities compescenda, etiam dum citam molimur ejectionem. Hic iterum assumpti natura cognita medenti auxilia indigitat, ad infelicitis aegri levamen.

levamen tempestivum procurandum. Sic salia alcalica diluta toxicis opponuntur acidis; saponacea misturam conciliant oleosis; aquosa sales quoscunque dividunt, sternuntque vires; acria retundunt ea quae oleo vel glutine viscoso gaudent; et sic de caeteris existimandum. Consulat lector quae de hac re egregie scripsit \* Boerhaavius in capitulo *de antidotis*.

27. Neque tantum per emetica fit ingestorum evacuatio, sed et humorum omnium qui in ventriculum deferuntur. Proveniunt illi, vel a vasis ipsius ventriculi, vel vicinorum: Atque equidem nullibi clarius conspiciendus pungentium effectus; § 21. expositus, quam in hoc viscere. Id patebit, si attendamus ad nervorum per tunicas ampli ventriculi perforum frequentiam, ad glandularum numerum, earumque munus, ad capacitatem denique vasorum quibus hoc viscus instruitur, molis respectu. Mollities tunicarum facilem dat nervulis introitum, cavitas spatiosa latam exhibet superficiem. Hinc nascitur insignior

\* Institutiones medicae, § 1119.

actio, five gastrici liquoris uberior secretio ; quae, quum semper larga sit, si augeatur, necessario totum corpus quodammodo mutat, humores serosos dispellendo, exsiccando : Et hinc alii emeticorum effectus pulchri, in morbis a serosa vapidaque colluvie natis ; ut in catarrho, leucophlegmatia, diabete, et foedo isto morbo virginibus exsecrato, qui ab excretorum colore pallente nomen accipit ; aliisque hujusmodi, de quibus insequentibus fusius dicendum.

28. Finitima ventriculo sunt hepar atque pancreas. Utraque sua secreta fluida in ejus cavum quandoque immittunt ; quae vel copia, vel acrimonia, vel utraque chylopoiesin temerare possunt : Bilis saepius, rarius succus pancreaticus, morbos excitandi reus incusatur. Bilem culpabant veteres, ac si morborum saevissimorum parens esset : Hanc sententiam multi inter hodiernos improbant, neque bilem esse malorum causam adeo frequentem contendunt. Si vero probe patuisset his quid per bilem antiqui voluerint, saltem ex iis sagaciores, haud temere abjicienda fuisse eorum dogmata forsan judicassent. Non enim  
solus



solus ille liquor ab hepate ejusque vesica sup-  
 peditatus, *Bilis* titulo insignitus fuit, sed totius  
 sanguinis molis, pars haud aspernabilis, et ip-  
 sissima illa quae recentiores *oleum* vulgo ap-  
 pellant; quod, ut ex chemia discimus, acque  
 fertilis morborum stirps hodie existit, ac fuit  
 olim sub nomine celebri *Bilis flavae*. Verum  
 hic agitur de bile vesicularia et hepatica, in  
 ventriculum sursum propulsa, vel de liquore  
 alio quovis, ibi advena, qui similia parit in-  
 commoda ac ipsa bilis; et talis est humor  
 oleosus, interdum vomitū rejectus, flavescens,  
 horrenda dotatus amaritiae, nec unquam pene  
 obliviscendo sapore, bilem fere referens, si  
 solum excipias quod bilis in igne ardeat nun-  
 quam, hic autem instar olei sinceri flammam  
 concipiat, si in ignitos carbones evomatur.  
 Nascitur ab oleosis ingestis, loci calore muta-  
 tis in illuviem hanc ingratissimam, accedente  
 gula nimis insatiabili, ut monet Horatius,

Nempe inamarescunt epulae sine fine petitae;

Illusque pedes vitiosum ferre recusant

Corpus. —————

Et vera bilis, atque flavescens illuvies ejus ae-  
 mula, similiter hac dote gaudent, quod sc.  
 stagnatio,



stagnatio, in loco calido, acriores et magis horrendas utraque facit : Eadem pene ratione ac oleum quodcunque tepore leni et diuturno fotum, a sapore blandissimo, odore non insigni, colore subflavescente, transit per diversos corruptelae gradus ad summum usque putredinis fastigium, tandemque maximam gustui acredinem induit, exhalat mephitim olidissimam, et nigredine deformi ferit oculos. Similia plane patitur utraque mox supra descripta bilis, iisdem subiecta legibus, ubicunque in corpore congesta, donec suam promovet expulsionem irrequietus hospes. Ali-  
ter enim diris et acerbis doloribus, tormini-  
bus, nauseis atque vomitibus, poenam non finientibus, sed ad mortem usque vexantibus, excruciatum miserandum aeger ; praesertim si temperies hominis calidior, solis ardor, victus denique ranceffens, aut fermentescens, pabu-  
lum flammamque praebuerint. En cholera ! morborum teterrimus : Febris accenditur, inflammantur viscera, laboribus succumbunt prostratae vires, et nisi affideat lecto Sydenhamus alter, obrepens in viscera gangraena du-  
ros cum vita terminat labores. Intra confi-  
nia, quae emetici vim sustinent, materies se-  
dem

dem habet, quae causa morbi est. Indicatur ablatio causae; cur non emeticis, aut deorsum purgantibus, vel utrisque tentatur egestio, cum in primis viis adhuc stabuletur? Haud sane immerito, in tanta morbi feritate, horum usum repudiant medici prudentes: Nam ut-  
cunque fructus perplurimum in aliis, vel in inferiore ejusdem morbi gradu, praestat hoc vel istud medicamen; in violenta tamen cholera, loris quam stimulis magis utendum est, ut facile attendenti patebit. Acer enim et inflammans iste liquor, abraſo prius omni muco gastrico, et, quousque pertigerat, intestinali, nudis applicatur nervis, saevos excitat dolores, spasmos fortes, pertinaces, febresque adurentes incendit; vomitu perpetuo evocatur mucus superſtes, causa provehitur, et continuato emetici impetu, reduplicantur effectus horrendi. Licet etenim minimopolleat aculeo, hic tamen, qualis qualis est, hosti indigenae addit vires, stimulus stimulo committitur, et horum sociato nixu perit aeger. Si ad hoc stadium morbis non attigerit, neque spem occidunt mali ominis symptomata, ut curationem vomitoriis tentemus jubent omnia. Rei cardo est delectus medicamenti peritus.

Nec

Nec bilis, nec oleosa materies, five bilis altera, omni fluido promiscue unitur ; hoc respuit, illud vero sequitur petitque. Quod itaque ad misturam parandam maxime idoneum est, istud usurpandum indolis morbi cognitae habita interim ratione, cui semper opponi debet auxilium. Hinc saccharata, mellita, saponacea acescentibus permista, ea omnia quoque § 7. n. 1. recensita, quae mole sua plusquam erethismate quovis agunt, prae caeteris conferre videntur.

‘Quandocunque bilis vacuanda est,’ inquit \* Forestus, ‘post juscula multa, vel post potationem liberalem, provocandus est vomitus ; nam bilis ut oleum his supernatat, et ob id facilius evacuatur : Adde quod acrimonia ejus temperetur mixtione harum potionum.’ Norma certe in vomitionibus biliosis sanandis nunquam non observanda ; neglecta quippe pessima quandoque profert incommoda. Catharticum temere ingestum corruptae materiae partem abripit ad inferi-

\* Foresti observ. lib. 18. obs. 3.

ora, forte et in sanguinem defert: Hinc iterum novae miseriae.

29. Tanta liquoris pancreatici diluvies occurrit raro, quae solitaria morborum causa queat haberi, natos tamen augere potest: Quum enim in sanitate larga adeo sit ejus secretio, ut Brunneri experimenta docent, in morbis ex lymphâ redundante ortis, deveniet adhuc copiosior, hujusque per emeticum evacuatio serofam colluviem imminuet.

30. Februm accessiones nausea et vomitu plerumque stipantur, aliisque symptomatibus, quae ventriculum male affici significant. Cautè tamen erit distinguendum, an ab ipso viscere, an ab ejus contentis, oriatur aegritudo: Alia enim curatio ventriculo, cujus membranae vexantur inflammatione, alia corruptis fordibus gravato, inflammatione libero, subministranda. Antiquioribus haud adeo perspectum fuisse videtur, hoc viscus morbis istiusmodi aequè esse obnoxium, ac aliud quodcunque; donec Fredericus Hoffmannus †, in suis exercitationibus, hoc ma-

† F. Hoffman. Dissertationum Decad. 1.



lum saepius obvenire docuit, quam vulgo creditur. Signa posuit diagnostica, quibus scopulos latentes vitaret medicus, in quos facillime alioquin impingeret incautus. Haec omnia pro suo more, cum largo foenore in libello *de cognoscendis et curandis morbis* exposuit Boerhaavius, nitidamque medendi methodum illi attexuit. Ab istarum commotionum, quae in febris initio toties ventriculo superveniunt; veri fontis inscitia, lites istae sollicitae inter practicos agitatae, de emeticorum fructu in hisce tractandis enato, profluxerunt. Adversus horum utilitatem hi strenue arguunt, effectuum exitialium adducunt testes, et fronte torvo vituperant usus. Alii successus salutare ad sidera tollunt, nec minus indubitatae historiarum fidem appellant, ad suas partes firmandas. Et quidem facile liquet neutros a veritate penitus aberrasse. Quantos etenim cruciatus induceret vomitorium ventriculo, cujus vasa sanguine crasso turgent, et infartuntur; cujus distracti nervi, levissimo contra ingesta collisu, atroces patiuntur dolores; cujus denique tunicae distensae tumore, duritie, atque dolore, phlegmonem verum in corporis exte-



riori natum omnino referunt? Quantas itaque clades in hoc rerum situ editura est operatio cum tanta violentia conjuncta? Saepius autem vitia, ab inclusis contentisque producta, molestiarum autores existunt: Tunc fane laude dignos praestat effectus, et Hippocratem, Sydenhamum, et clarissimos quosque in arte viros, usum eorum fancientes habemus; nec non et ratio suffulta praxi idem effatur. ‘\* Si vomitus,’ ait Sydenhamus, ‘vel inanis aliqua vomendi propensio, interturbaverit aegrum, medicamentum emeticum omnino praescribendum erit.’ Namque, ut testatur † Hippocrates, si quis homini vomenti aquam multam bibendam dare velit, εκκλυσθησεται δι’ α’ εμεει συν τω εμετω, αυτω μεν δια το ’εμεειν ο εμελος παυεται.’ Nec solum hoc commodum foeneratur, quin etiam et medico et aegrotanti per totum morbi decursum quaestui ingenti erit, uti ex Sydenhamo discimus. ‡ Sane vomitorium propinare, ubi istiusmodi praegressa est vomendi proclivitas, adeo est necessarium, ut nisi hu-

\* Sydenham. de morbis acutis, § 1. cap. 4.

† Hippocrates de locis in homine, clas. 2. p. 16. edit. Mer.

‡ Sydenhamus ubi supra.

‘ mor ille expellatur, in sentinam complu-  
 ‘ rium malorum difficilium sit abiturus,  
 ‘ quae crucem figent medico toto durante  
 ‘ medicationis tempore, aegrumque in haud  
 ‘ leve periculum conjicient. Ex horum  
 ‘ praecipuis et maxime solitis est *diarrhoea*,  
 ‘ quae ut plurimum in defervescentia febris  
 ‘ consequitur, quotiescunque emetica, quan-  
 ‘ do ea suadebat indicatio, omissa fuere.—  
 ‘ Porro etiam compertum habebis, etiamsi  
 ‘ proclivitas illa ad vomendum jam pridem  
 ‘ praeterierit, diarrhoeam tamen, quampri-  
 ‘ mum vomitorium exhibueris, plerumque  
 ‘ cessaturam, dummodo emetico ferendo  
 ‘ pares fuerint aegri vires.’ Nec sane teter-  
 ‘ rimum rerum conspectum vir egregius deli-  
 ‘ neavit; namque putrida haec materies in  
 ‘ ventriculo stagnando magis putrida evadit,  
 ‘ perque bibula vasorum orificia, vacua jam  
 ‘ per calorem et liquidi jacturam reddita, in  
 ‘ sanguinem ducitur, fordibus malignis cruo-  
 ‘ rem polluit; et febrem omni numero saevi-  
 ‘ orem reddit; quae cuncta feliciter anticipata  
 ‘ fuissent, si vomitorium, quamprimum se  
 ‘ patefecit hacce propensio, fuisset exhibitum.  
 ‘ De emeticorum delectu monitum hic quo-

que repetendum erit, scil. quod ea elegamus, quae fordibus abluendis aptissima, quae harum indoli adversentur, eamque mutant vel corrigant; quae denique diluentis vicem gerant, si forte (quod pote est) portio aliqua in sanguinem hauriatur. His intentionibus arrident classe una, § 7. memorata, cum nonnullis ex § 8. decerptis efficaciora reddita; oxymel scilliticum, v. g. cum radice ipecacuanha; hausto dein larga manu oxymelite simplice, aliove liquore tenui, prout res nata sit.

31. Dum de febribus agitur, cautelam fas est in memoriam revocare, quae apud praticos plerosque prostat, nec praeteriri debet; scil. quod in omnibus morbis, ubi plethoram adesse, vel ad eam esse vergentem habitum, sua signa demonstrant, et simul aegri conditio vomitorium postulaverit, sanguinis missio semper praemittenda est; ne fortasse illud ingens conamen, et tetanus momentaneus, vasa distensa rumpat; vel major saltem quam par est sanguinis impetus ad ea loca feratur, in quibus resistentia minus firma vi cedat illatae; disrupta vasa sua liquida

quida fundant, et immediate pereat aegrotus per apoplexiam, vel haemoptoe, vel insana-  
bili inde phthisi, pulmone labefactato, tan-  
dem trucidetur; aliisve visceribus pariter in-  
fractis e medio tollatur. Illa vomitio vide-  
tur optima quae brevi post sectam venam  
cietur; certius enim incommoda evitantur a  
plenitudine caeterum oritura; certius simul  
insequuntur emetici effectus salubres, prae-  
sertim si ex febrium genere sit morbus, qui  
utrumque expetit auxilium. Depleta siqui-  
dem per v. s. vasa, cito quandoque de novo  
turgent; vel ob sanguinis rarefactionem, vel  
ejus auctam molem per largos potus,  
in quos ardor et sitis aegrum impellunt,  
eadem nascuntur ac prius incommoda:  
Nec ante repetitam, v. s. exhibere licet  
emeticum, quod paucis post primam evacua-  
tionem horis tuto fuisset propinatum.

32. In febribus intermittentibus mirum  
quid exsequi videtur Παιδευσίς ἐμετε, quae ef-  
fectus quandoque exhibet aequae difficiles ex-  
plicatu, ac fere ipsius morbi natura. Licet  
enim illius sedes praecipua sit in extremis  
vasis sanguiferis, aut aliquando forte in ner-



vis ; humorum tamen evacuatio, qui in alvo colliguntur, haud minimi est momenti. Prostant siquidem exempla hominum, qui vomitu solo curati fuere ; hocque vel spontaneo, a benignis naturae auspiciis excitato, vel arte famulante inducto : Dum interim sanguinis evacuatio, nisi in plethoricis, plerumque obsit, et gravi medenti taedium pariat. At repetita prudenter emetica, corruptum in primis viis morbi fomitem sensim consumunt, subigunt, sanguinis fluxum accelerant ; morbum denique vel tollunt, vel tutam expediunt febrifugo viam, quod caeteroquin vel morbi fomitem figeret magis, vel evacuatione, sursum aut deorsum excitata, proprias suas perderet vires,

33. Multiplices affectat natura vias, per quas domitam febrium materiem, aptatamque ut per portas arte casuve recludendas eliminet, iterumque sanum corpus reddat. Nunc per emunctoria certis excretionibus assueta, per salivam, vomitum, secessum, sudores aut urinas eam ejicit : Nunc autem ad alia minus idonea loca despumationes emittit. Tumores ad exteriora nati, aliaque similia hujusmodi sunt,



sunt. ‘ \* *Quae educere oportet, quo maxime  
 ‘ vergunt, eo ducito per loca convenientia,*’ om-  
 nibus est regula bene nota. Si per salivam  
 febrem judicatam fore constet, manus auxi-  
 liatrices eo sunt movendae. In vomitu idem  
 erit praestandum, si criticum eum esse novi-  
 mus, vel a materia excitatum naturae inimica;  
 sedandum vero, si a ventriculo inflammato, et  
 vomitus vomitu demulceri nequit. Eadem  
 res est, si per alia quaevis excretoria egredi  
 tentet. Quo diutius enim in corpore sistitur  
 cocta fluensque sanies, eo pejora creat incom-  
 moda. Triste, sed verum hujus rei praebet  
 exemplum febris purulenta, quae a resorpto  
 tabo variolis saepius supervenit, secundaria  
 plerisque nuncupata. Nec maligna minus  
 est alius cujuscunque febris acutae materies  
 critica putrescens, quae instantem exigit eva-  
 cuationem. Praesto adsunt remedia, singulis  
 evacuationibus promovendis destinata: Haec  
 usurpanda prout viam monstraverit natura.  
 Advertendum tantum est, quod uti materies  
 morbi cocta per cutis spiracula diffatur, cor-  
 rupta labe usque adeo inquinata ut sanos

\* Hippocratis Aphor. § 1. aph. 21.

saepe polluat ; similis tamen ad interiora ventriculi et intestini, per horum exhalantia vasa deponitur, cathartico nunc, nunc emetico, feliciter auferenda ; ne forsan, ‘ \* *Quae per morbos post judicationem intus relinquuntur, morborum reversiones faciant.*’ Atque suadet ea propter Celsus †, ‘ *Vomitum post febrem eliciendum esse.*’

34. His numerosum morborum agmen licet adjicere, qui bona et eximia multa ab hoc subsidio mutuantur. Pauci enim ex chronicis existunt, qui emeticorum ope non indigeant ; sed eorum recensio particularis ultra metas protraheret orationem. Morbi enim plerique, puerilis aetatis affeclae, diathesis rachitica, strumosa, saburra vermium fomes nidusque, victûs errores, atque similia, saepe emeticis feliciter emendantur. Arthritis, hydrops, scorbuti stadium clementius, adultis infesta, quandoque lenimen ab evacuatione per superiora facta sentiunt ; chlorosis et fluor albus molliori sexu eadem saepe pos-

\* Aphor. Hippoc. § 2. aph. 12.

† Celsi medicina, lib. 3. cap. 7.

cunt auxilia. Catarrhus, diarrhoea, dysenteria, coeliaca affectio, morbusque omnis a fetida colluvie natus, vomitorii commodum agnoscunt. Vix opus est memorare, quantum ad grandaevos annos comparandos conducant, idoneis intervallis exhibita. Hodie non desunt homines, qui veterum consilii memores, licet gulae placendae parum dediti, nec scopis indigentes ad reliquias crapularum auferendas, tanti aestimant vomitionem, ut bis terve per mensem contractas in stomacho fordes per superiora propellant. Illi, qui accuratam maxime vivendi normam servare studet, saepius in potu victuque errare necesse est. Hinc serius ociusve culpa ingruit ventriculo, ibique formatur primo morbi futuri stamen: Ægritudo sive nausea molesta interdum sentitur, minuitur cibandi desiderium, aliaque imminent symptomata, varia pro genio causae vitiique diverso. Plerique statim ad tincturas celebres plantis amaris aromaticis, spiritus ardentis ope elicitas, confugiunt, istis confidunt, indulgent; donec horum sub jugum missi torrefactis et effoetis visceribus moriantur. Nullum quidem remedium novimus, quod tot tantaque eis polliceri videtur,

qui

qui ad cruditates generandas a vitae genere sedentario proclives sunt ; natum enim morbum aufert, causam proximam delet, eradicat, acorem eluendo quae hanc plerumque constituit. Iis itaque, qui vitam studiosam degunt, vel quorum corporis affectus exercitationes motusque prohibent, qui denique artibus utuntur sellulariis, vel qui ob aliam quamcunque causam eisdem malis obnoxii vivunt, iis, inquam, crebrum emeticorum usum commendarem.

## P A R S    U L T I M A.

*De Emeticorum Usu, a mochlica sua virtute petendo.*

35. Tertium adhuc superest quaesitum enodandum, quid, sc. emetica profint, quatenus vim exercent mechanicam, et virtute mochlica expugnant morbos? Quae itaque partes afficiuntur, quid patiuntur, quae in reliquis exinde mutationes producuntur, et in toto corpore contingunt, proxime scrutandum.

36. Con-

36. Contractis itaque [§ 1.] musculis abdominalibus et rigefactis, fere instar columnae istius osseae, quae posteriora tuetur, vi hujusmodi nulla movendae; compulso simul valide diaphragmate, cui inferius ossa pelvim constituenta immobilia opponuntur; omnimodo ventris infimi capacitas angustatur, dum hinc atque hinc, super subterque, contenta ejus arctissime constringuntur; nec punctum fere in tota regione abdominali ingentis pressurae expers reperitur; cujus vim admodum insignem esse testatur vehementia qua sursum exploduntur ventris contenta: Certa enim suadent experimenta, nullam inesse ventriculo potentiam contractilem, quae ista possunt exhaustire, donec conspirans simul partium modo memoratarum compressio fortis evacuationem integram absolvat. Tanta ergo violentiae viscera subjecta mollia participes fiunt, unde insignes utilesque effectus expectandi.

37. Antequam vero harum disquisitio instituat, incolarum abdominalium actiones, methodo sequenti, generatim disponere haud alienum est; ut, perspectis horum muneribus, facilius



facilius cernantur mutationes morbosae, clariufque patefcant quot quibufque modis in subsidium venire poffit compressio vehemens, mechanica, alterna, in haec viscera.

38. Horum munera praecipua funt, 1<sup>mo</sup>, Ingestorum praeparatio, ut naturae egestatibus succurrendis nata fit materies. 2<sup>do</sup>, Hujus separatio, ut quae refectiioni apta fit ab ineptis amoveatur. 3<sup>tio</sup>, Ejusdem in sanguinem, per instrumenta extra abdomen posita jam converfae, ulterior elaboratio. 4<sup>to</sup>, Secretio liquorum vitae ufibus egregie famulantium. 5<sup>to</sup>, Denique partium solidarum et fluidarum residui, effoeti nunc facti, a nutritiis separatio et ejectio. 1<sup>mo</sup>, Officinam praeparantem ventriculus et intestina tenuia praebent. 2<sup>do</sup>, Fluidiora a craffis segregant vasa lactea et absorbentia. 3<sup>tio</sup>, Sanguis ad arterias amplas mefentericas, caeterasque per ventrem difperfas, perpetuam patitur concuffionem, compressionem reciprocam, propulfionem; quae omnia, in splene praesertim, conspicua. 4<sup>to</sup>, Cruor ita subactus, per appropriatas portas, v. g. per hepar, pancreas, totamque glandularem catervam, ubique per infimum ventrem difpositam,

positam, perpetim emanat, indole et forma mutatis, juxta determinatas organi cujusque naturae leges. 5to, Ramenta crassiora, corrupta, et per tubum protrusa, tempestive excernuntur : Sanguinis pars tenuis et aquosa, detritis onusta salibus, oleisque nutritioni ineptis, per renes abit, constituitque urinam. Cuncta haec officia, tempore eodem et eodem auxilio promoventur ; alternata, scil. et constanti agitatione ; quae respirationis est comes assidua et necessaria. Patet enim, quod, si sisteretur motus abdominis, et lenis ista succussio cessaret, nulla vis adesset, quae per tot tamque angustos tortuososque canales, ingenti interdum oneri subjectos (ut ii sunt, qui per inferiora repunt) contenta in eis fluida propellere valeret : Impetus quo vibrat cor, labori esset impar ; et insignis illa potestas, absorptio dicta, qua fluida ex cavis intra venas hauriuntur, licet tanta ut nullis praescriptis finibus coercenda sit, cito deficeret. Nam sponte nata visciditas, cessante motu externo, canales paulatim obturaret, atque in exilibus tubulis tot impedimenta deponeret, ut sensim in omnibus progressus brevi tolleretur, in quibusdam visceribus, vel in omnibus, prout malum

malum proserpsisset latius, aut arctiora castra metasset. Et quidem morborum aetiologya demonstrat, plurimos ex eis, qui abdomine infensi sunt, ex hac vel ista, vel utriusque simul causis nasci. Remedium igitur attenuans, motumque properans, prae caeteris indicatur.

39. Nisu itaque vomitus, viscerum superficies contra se mutuo valide comprimuntur, eorum moles imminuitur, compinguntur tranantia fluida, atteruntur, propelluntur; adversus canalium latera urgentur, et quod datur exitus confestim exprimuntur. Hinc secretio fit expeditior, celerior expulsio; crassi resolutio, ejusque subactio et ejectio; denique actionum omnium [§ 37.] maturatio, organis ipsis vigor, et, omnibus superatis obstaculis, agendi facilitas; ex quibus primario pendent et quantitas et qualitas istarum secretionum, quae sanitatis praesidia haberi possunt.

40. Interior ventriculi cavus conferto glandularum agmine vasisque exhalantibus obsidetur, ex quarum osculis, villosis, flexilibus,

libus, assiduo fluit humor, quo lubricus madidusque servatur ipse, defenduntur ab assumptorum injuriis nervi, promovetur chylopoiesis. Humor vero crassities, sive indoles mucosa, qui haec loca salutant, accedente motu languidiore (prioris plerumque comite) necessario secretionem minuit tardatque; glandulas infarcit viscidis, sensimque munus earum evertit. Hinc gastrici fluoris penuria, cruditas inde et indigestio, appetitus deletus, aut nimius, stomachi ardor, aliquando nausea sitisque. Eadem quandoque occurrunt mala, ab arefacta sordium crusta cavitati ventris obducta; sicuti post febrem acutam diuturnam, ubi vulgus adstans, aut medicus forte crudelior, injuste naturae poscenti ipsam lympham denegabant. Diluentia in hisce casibus haud sufficiunt; haec enim ulterius laxant vasa; hinc tardius propulsa fluida cunctando brevi crassescunt, haud parvo labore iterum solvenda. His infortuniis istud remedium haud infimi usus est, quod praestat effectus supra enarratos [§ 29.] Instar enim pulmonis alterius totum abdomen censendum est. Munera quidem sibi propria singula viscera nanciscuntur,



cuntur, sed motus supervenit aliunde, quæ perpetua fluidorum in unoquoque mutatio inducitur, provehitur; perinde ac in pectore res agitur, mistio, scil. compressio, attritio, solutio, atque similia. Eiusdem causæ effectus idem, licet organis diversis absolvatur. Vomitu itaque cito perficitur, quod lentis vicibus consequi nitebatur, sed incassum, natura.

41. Alvus constricta, segnis et solitariae vitae assueta comes, haud nascitur saepius, quam a deficiente muco intestinali, et liquoris gastrici, glandularum et vasorum [§ 40.] sobolis absentia. Hic enim molles fluidasque foeces reddere debet; ille vero lapsum facilem iis conciliare. Causa defectus eadem, ac supra [§ 40.] memorata, et levamen eadem medela, adscito motus et exercitationis auxilio, tentandum. Ab hoc solo fonte semper enasci malum non asseritur; at vero, si ab alio quocunque semel fuerit inceptum, augmentum exinde capit, et alvus segnis tandem astricta devenit. Foeces quidem educunt κατω purgantia blanda, praefens auferunt incommodum, molestias istiusmodi



modi status plerumque confortes leniunt. Si vero remediis, quae tam pulchra prae se ferunt, nimis indulgeat aeger, quoties alvus obstipata reducit aerumnas, secutura nocumenta vix evitabit. Talia sunt, alvus adhuc astrictior, humiditate omni cum foecibus educta, et viscerum oppilationes, infarctiones a crasso relicto. Duplici itaque de causa [§ 34. 40] sese commendat emesis, hominibus istis, qui vita fruuntur inertī; quatenus scilicet et expellit cruda, et viscidos attenuat liquores, accelerando motum, et proinde humectantis optimi vice fungendo.

42. Ventriculum et intestina gravat nonnunquam vitium priori oppositum; scilicet aquosi laticis diluvium, quo submersa ilia fatiscunt, calorem amittunt, et instrumenta muneri vitali dicata huic obeundo imparia fiunt. Gravitas et languor circa praecordia; sputatio frequens; edendi cupido perexigua; aquosae colluviei ejectio per os, mane praesertim infesta; nausea gravis brevi desinens; sedes liquidae, crebrae, doloris expertes, una cum corporis universi debilitate, inertia, atque pallore hanc indicant illuviem, simul-

que serosam solutamque sanguinis indolem. Memorata symptomata correctionem haud obscure innuunt. Expressio liquidi redundantis, et robur additum canaliculis primo necessaria sunt, tum secutura inde compacta sanguinis crasis, et mutata diathesis pituitosa: His imprimis conferunt emetica. Hinc itaque patet cur ventrem solutum vomitus comprimat, compressum solvat, juxta Hippocratis placitum, Celso \* repetitum, ratumque.

43. Pancreatis structura et munus, salivarium glandularum aemula, illud objiciunt similibus malis, secretioni nempe impeditae, vel nimiae. Utrique prodest emeticum; obstructionem quippe, si non nimis pertinax sit, referat, exuberantem laticem potenter emungendo exsiccat.

44. Inferius paulo, ab oesulis lacteorum exfuguntur liquefacta ingesta, quae statim ad glandulas meseraicas feruntur. Tardus istorum motus, et vascula tam exilia et tor-

\* Celsi medicina, lib. 1. cap. 3.

tuosa tenuiorum a crassis separationem promouent, dum difficile reddunt chyli ad sanguinem iter; illis praecipue qui debili stamine potiuntur, pravisque simul vescuntur escis; vel quibus harum partium structura mala contingit. Imprudens aetas, temperies sequas, et victus crudioris malefuada fames, pueritiam, prae aliis vitae stadiis, morbis ex infarctis et tumefactis glandulis meseraicis opportunam reddunt. Causae similes in adultis similes edunt morbos, sed rariores; nam reipsa constat puerulis hujusmodi infarctiones, glandulas abdominales occupantes, frequentiores devenire. Istis enim annis vix nobis occurrunt epulae gratiores, quam fructus crudi, immaturi, legumina et farinacea viscida, et, si magis indissolubiles pariat natura cibos, istis utimur imprimis, eos importune petimus, eventus luxuriosae gulae nulla facta ratione. Inde massa tenax in alvo formantur, quae in fluorem viscidum, vix nisi forma mutatum, tandem resolvitur, dilabitur e stomacho, occurrit bili inertī, ea diluitur, vix tamen solvitur: Tenuior pars abit in lactea, brevi prae tenacitate haesura; quotidie renovatur causa, crescit augeturque

obstructio, durior evadit tumor, vicina comprimit, aditum in venas claudit, atrophiam nascitur, et homunculus indies marcescit. Vel, si ad tantam saevitiem morbus non attigerit, nec penitus obturentur glandulae, imperfectus chylus sanguini affunditur, eumque labe contaminat; secreta, cruoris proles, vitiantur, affectis ubique fere glandulis; eisque praecipue tumefactis, quae collum faciemque obsident; Unde vultus fit praetumidus, torvus, et veram strumam, aut diathesin eo vergentem, adesse designat. Tetrica certe rerum facies haec, et medenti nodus intortus; suum enim robur perdidere solida, justo viscidius fluida coguntur: Hinc depravantur, et quae assumptorum mutationem in corporis naturam ut plurimum debebant perficere, eam imperfectam relinquunt. Praeterea, glandulis obturatis, praeccluditur ipse meatus, per quem novas vires ad sanguinem mitti oportebat. Huc adde, quod semel oppilatae glandularum cryptae difficilius purgentur, et muneri suo minus aptae reddantur: Unde facile constat, ad morbum adeo pervicacem debellendum omni subsidii genere utendum esse. Tumorum resolutio imprimis



imprimis tentanda, ut vitae fabulum depravitas medela, robur debilibus, quantum victu et remediis fieri possit, subministrantur. Deinde partium, in quibus mali sedes, ita firmanda crasis, ut gravantia liquida subigant, expellant; curata interim vivendi norma. Qui situm mesenterii callet, intelligit facile, quanta cum violentia, nisi vomitus, illud undequaque prematur; et quinam inde futuri sint effectus in glandulas recens infarctas: In vicina foeda spurcitie cummulata [§ 39.] in pancreas eadem scatens [§ 43.] in ventriculum denique, sursum evocando liquores acres [§ 34.] hunc infestantes, et novas subinde vires morbo suppetitantes. Sedulo autem perquirendum erit, si integra sint viscera, si nullo ulcere corrupta, si a labe putrescente penitus immunita; sin minus imprudens emesis hominem laedet. Idem quoque verum est, si ex sola laxitate continui solutio metuatur: Tunc enim virtus mechanica parcius adhibenda est. Nil fere aliud prohibet, nec magni fructus spes erit inanis, dummodo mobilis sit obstipans materies, et repetita vomitoria commodè ferant aegri vires.



45. Inter caetera abdominalia splen viscus est tenerrima compage donatum, cujus columnae carnae, musculosae, ad fluxilem firmandam fabricam, plus quam ad insignem cruoris quam accipit copiam propellendam, aptatae videntur; nec labori par est arteriae robur, aut cordis impetus, per vasorum numerum, et anfractus tortuosos, retusus. His vero succurrit assidua et lenis agitatio, quam connectio splenis cum diaphragmate, musculorum abdominalium propinquitas, positio pendula, isti conciliant. Atque per has causas praecipue sanguinis progressum per vasa lienalia conservari censendum est. Ideoque, si motus assuetus sistatur, vel diu minuatur, (ut in eis fit, qui vita utuntur deside, et domi peracta) cunctatur in cellulis cryptisque sanguis, evadit crassior, et maximo cum obstructionis periculo res agitur; quum debita mobilitas, et impetus assuetus, facilis liberique transfluxus autores, cessant. Diversa morbi aetas, causa diversa varium postulant lenimen; nec una medendi ratio lienosis omnibus convenit. Si recens infarctio, nec ingens durities; si ab exercitationibus omissis, et ex acriore adhibita rei cuicunque cura nascatur; si gravedo distentione

stentione dolens, nec copiosa materies, atque temperies *euphoros* quoad caetera, compressio mochlica cum fructu potest adhiberi. Si vero durities schirrum indicet tactu, aut si praegressa febris inflammatum lienem in puris sacculum converterit, ad alia fugiendum remedia, ne schirrus irritatus in cancrum abeat; vel perruptis claustris, quibus pus coercetur, purulento diluvio submergatur abdomen, aut sordida tabe obruatur hepar.

46. Inter morbos, qui jecori infensi sunt, foeda ista, et luteo colore cutim inficiens aurigo, saepissime sensibus se prodit. Causas hujus mali proximas in scriptis medicis plurimas invenimus; singulas autem enarrandi vel discutiendi laborem mihi minuit elegantis illius exercitationis auctor, qui de ictero tractatulum *Tentaminum Med. vol. 1mo* \* inseruit. Caeterum, cum egregio viro, qui nomen suum latere voluit, censere licet, longe frequentissimas icteri causas calculos esse, in vesica fellea fatos, per meatum tortilem ex ea derivatos, et limine nimis angusto haerentes. Nam prae-

\* Medical Essays, &c. vol. 1. art. 33.

ter historias, quas ipse auctor adducit, ratio-  
cinia ejus plurimum stabilire videtur alia, †  
quae volumine sequente traditur. Si itaque  
haec sit vera rerum facies, (ut maxime vero-  
simile videtur) caeteris remediis mechanica  
sunt anteferenda: Ambulatio, equitatio, alii-  
que motus quibus fortiter jaëtatur corpus, in  
hunc censum vocantur, ut eorum ope lapillus  
ab angustiiis extrudatur, et bilis repressâ ef-  
fundatur. Descensum sane egregie promo-  
vent auxilia recensita; sed deficiunt nonnun-  
quam, et duriori cuneo morbus indiget. Si  
unquam profit emeticum virtute quavis me-  
chanica, unquamve sperandi effectus hujus  
salubres, et morbi sedes, et causae genus, hic  
mentem fructus spe lactant, nec saepe inani.  
Hausto enim copiose liquore, turgidulus fotu  
tepefacto saccus, ipsi fere ductui constricto ap-  
ponitur, eumque laxat; dum urget a tergo  
bilis, ingenti contractione [§ 36.] protrusa.  
Aut si causas alibi ponamus, v. g. in porro  
biliario, in primo ejus exortu a portarum ex-  
tremis, aut ubivis praeterea, easque materiem  
crassam, purulentam, vel haerentes lapillulos

† Medical Essays, vol. 2. art. 28.

agnoscimus; haud minimae efficaciae erit emeticum, si artis adjumento malum debellari possit.

47. Per sympathiam, ob commune nervorum consortium inter ventriculum atque renes, perque motus turbasque in illo concitatos, quotiescunque hi dolore afficiuntur, viam indigitasse videtur dux natura, qua sedibus excutiat quicquid inimicum foret renibus diuturniore mora. Imo, Gypsea, mucosa, purulenta materies hic nata, vel per metastasin aliunde huc provecta, crassior quam quae per exiles canalium fines exire possit, vel egressa diutius quam fas est in sinu renali stabulans, augmentum quotidie capit, mole crescit, vicina premit, vel atterit, et cruciatus atrocissimi existit auctor. Saepe formatus jam calculus casu in ureterem, hospiti tanto recipiendo nimis angustum, protruditur; cujus tunicae musculosae, sensiles, scabra lapilli superficie rasae, arctius hunc complectuntur, et ulteriori progressui fortius obstant, saevientibus interim doloribus omnem fere tolerantiam superantibus. V. S. imprimis celebrata, universalibus et topicis strictura tollenda est; deinde



deinde vis mochlica praestat quod arte praestandum. Nec unica haec est vomitorii virtus in hoc morbo, sed fomenti vicem gerit epotus liquor, qui cum injecto clysmate balneum internum faciunt, quod aquoso suo halitu relaxat contracturas, et, ventris infimi contenta adaugendo, in renes aut ureteres vim magis intendit.

2do, Morbosa renum flacciditas, infractio vaforum robore, tale nonnunquam emitti patitur aquosi laticis profluvium, ut speciem istius morbi simulet, qui Διαβητης Graecis appellatur. Exit crebro urinae aquosae, tenuis, decoloratae, odoris saporisque pene expertis, copia spectabilis; fitis adest molesta, virium prostratio, fluidorum ingens dispendium, et solidorum detritio. Pejor morbi species ea est, in qua fit effluxus liquoris albicantis, chylosi, subdulcis, reliquisque stipata signis, quae propria huic morbo dedit praxis vetustior, et comprobat hodierna. Licet enim morbus rarissimus, cernitur tamen aliquando. Sive jam natus sit a relaxatis renum vasis, sive a fluidorum dissoluta crasi, sive ex alia quacunque



cunque *προφασει*, uti loquitur \* Sydenhamus, 'Curativae indicationes, ad sanguinem cor-  
' roborandum, invigorandum, ac pariter ad  
' fluxum urinae praeternaturalem restringen-  
' dum, omnino dirigendae sunt;' cui addere  
licet, ad morbosam renum laxitatem auferen-  
dam.

Quae de virtute emetici exsiccante supra  
[§ 42.] dicta sunt satis evincunt, quantum  
prioribus indicationibus haec respondeant.  
Renum situs, ossibusque duris vicinitas, quid  
mochlice ii patiantur ostendunt, et quam  
fortiter impetus humidum redundans ex ipsa  
renum substantia emungat. Sane excutit  
quodammodo macerantem lympham, et amif-  
sum tonum fibris elatere suo privatis restituit.

48. Vix opus est monuisse quam immaniter  
uterum sarcina tumentum comprimant mus-  
culi [§ 36.] spasmo validissimo contracti.  
Propius igitur instante partus exclusione, se-  
dulo fugienda sunt quaecunque istis calcar  
addunt. Sed eandem ob causam videre est,  
quanta spes ab eodem fonte profluat, si par-

\* Sydenhami epist. resp. oper. p. 272.

turienti deficient vires et repetito conamine-  
 coufque robur profternatur, ut quamvis fitu  
 legitimo potiatur infans, nec juftam molemi  
 multo exsuperet, nec adeo arctetur exitus;  
 quin par operi potentia partum produceret;  
 emeticum, quod prompte, quod potenter agat,  
 quod cito coercendum, faufte faepe rem pe-  
 ragit; nec tumultus, calores, aut incendia  
 febrilia parit, quae comites atque fequaces  
 fibi adfciscunt aromata, et praefertim ardentes  
 fpiritus iftis acuminati, et ejufmodi plura,  
 quae ab aniculis, fuo more, in magnum ple-  
 rumque aegrae incommodum affatim porri-  
 guntur.

Alii funt uteri affectus, qui levamen ab  
 eodem remedio capiunt: Quum vero, licet  
 ultimas fedes in hoc viscere pofuerint, vitia  
 tamen per totum corpus difpergunt, hae tan-  
 quam effectus generalis caufae fpectandae.  
 Fomes itaque in univerfo habitu delendus,  
 priusquam utero redierit priftina falus. Quan-  
 tum huic intentioni arrideat emeticum, poft-  
 ea dicendum.

Prefpectis hoc pacto fingulatim praecipuo-  
 rum viscerum culpis, faltem quae a remediis  
 mochlicis

mochlicis commoda accipiunt, effectus qui totum corpus respiciunt perpendendi, et mutationes indagandae, operationis tantae progenies.

49. Praeter insignes vasorum truncos, qui ventrem pervadunt, qui ad organa diversa sanguinem deportant, qui ab extremis referunt, quique in unum collecti portarum stirpem constituunt; milleni istorum furculi viscera perreptant, et variis ambagibus iter tentantes, plures formososque vasorum plexus constituunt; per quos assiduo propelluntur humores inquilini. Per vomitum vasorum situs, magnitudo, et figura omni momento variantur, ita ut actio nata sit pulmonum actioni simillima. Si vero numerum vasorum abdominalium, et vim quae eis eorumque contentis nisu vomitorio applicatur, in censum revoces, pulmonum vires, et actiones maxime potentes longe superari videas. Adde quod, hoc ipso temporis puncto, strenuius multo ab iis res geratur quam solito more fit. Inferre itaque nil vetat uniuscujusque munus sanguificandi summopere exinde provehi; id est, compactio, densatio, attritio, solutio, miscela.

cela cruori eximie conciliantur. His quoque famulatur aucta sanguinis velocitas; comprimuntur enim arteriae, et quae per ventrem vadunt, quaeque etiam per artus dispertiuntur. Musculi enim plerique leviori tetano, dum nifus instat, horrescunt, ut cuivis patebit hominem evomentem spectanti. Musculi, qui pectus humerosque ambiunt, sustentant costas figuntque; exprorecta brachia suffulciunt corpus, quibus opitulantur illi musculi qui dorsum vestiunt, antrorsum curvatam spinam in situ commodissimo detinendo; crura rigescunt, et instar immobilis statuae aeger ore hianti vomitus insultum expectat. Vasa itaque sanguifera musculorum comites, aequae ac abdominalia, pressurae subijciuntur, et eadem pati debent: Minuuntur arteriarum diametri; ruit ergo compressum fluidum quo patet exitus; recessum prohibet urgens ejusdem a tergo columna; progredi necesse est, ocyus itaque venas appetit: Harum tunicae minus rigidae facilius vi cedunt externae; idem itaque his accidit, comprimitur nempe pelliturque sanguis; valvulae frequentes pedem revocare vetant, pergunt ergo celerius et pleniori fluvio ad cor accedit; inde



inde crebro repetitis ictibus percussus, pro-  
pere cursus iterat eosdem. Praedicta docent,  
nec obscure; *1mo*, Haematopoiesin emen-  
dari. *2do*, Secretiones augeri. *3tio*, Solida  
novis viribus instaurari. *4to*, Denique san-  
guinis momentum intendi, et sepositis impe-  
dimentis circulo liberiori frui. Atque ex  
hisce principiis facile patebit, quinam sint  
morbi της μοχλειαs δεομενοι, et quare tot tanta-  
que, tum in fluida, tum in solida, efficiat vo-  
mitorium: In paucis tamen ejusmodi morbis  
horum usus perstringere haud a proposito  
alienum erit.

50. Praeterita jam hyeme, solida, acri gelu  
prius rigescentia, laxantur iterum, atque flui-  
da, ab enervatis vasis minore impetu pro-  
pulsæ, verno tepore spissescunt, et levi de  
causa in extremis vasculis sistuntur, deficientē  
quoque consueto solidorum robore; aeris  
humiditas sordes accumulatur, et corpus de-  
bile, foccibus gravatum, multis malis oppor-  
tunum reddit. Inducit fortasse natura fe-  
brem benignam intermittentem, quæ mo-  
lestum onus brevi excuteret, sanum vege-  
tumque corpus daret, si sibi commissæ ab  
opere non deturbaretur. Urget tamen quæ-  
rulus aeger, dictis amaris medicum laceffit,



et spreto consilio, forte ab aniculis intempestivum morbi levamen, millenis saepius malis stipatum, sibi comparat. Emeticum secundat naturae ausus; et, si radicitus haud extirpet, tutam tamen expedit in sanitatem viam [§ 32.], etiam saepius repetitum prodest. Febris intermittens autumnalis emetici subsidium haud minus efflagitare videtur, tum ad amurcas ex primis viis exhaustas, tum ad vitia, quorum radices altius haerent, corrigenda.

51. Febris lenta, continua, morbo priori affinis, gradu major, ab eisdem forte causis, idem circa tempus, quandoque grassatur; immobilior videtur materies, quaeque diuturno naturae labore nullo modo subigi vel expelli possit: Hinc nulla remissio; parum tamen mordax est, ergo haud impetu magno exardet. V. S. cum sanguine emittit vires, quae in hac febris specie fatiscunt nimis; alvi subductio, si lenis, parum confert, si fortius res agatur, debilitat. Naturae inceptis favere medici est; feбри ergo flammæ subji-ciendae, ut irritos conatus absolvat, crassa subigat, et expellat subacta quo nocitura non sunt. ‘At si frigus est et torpor,’ inquit Celsus\*, ‘et jactatio corporis; non alie-

‘ num

\* Celsi medicina, lib. 3. cap. 9.

num est, in ipsa febre, dare mulsi tres aut quatuor cyathos, vel cum cibo vinum bene dilutum. Intenditur enim saepe ex eo febris, et major ortus calor simul et priora mala tollit, et spem remissionis, inque ea curationis, ostendit. Nec quidem minora ab emeticis efficiuntur. Adest nempe vis insignis spirituum motum accelerans [§ 18. 19.], evacuantur sordes in ventre latentes [§ 30.], viscida subiguntur, si quae abdominis incolas obsideant [§ 39.], denique sanguinis intenditur cursus, et augentur secretionēs [§ 49. n. 2. 3. 4.] tenues, per exteriora praefertim.

Neque ulla fortasse est methodus efficacior vel utilior, qua sudor elici potest, quam post exhibitum vomitorium ; non modo enim in ipsa operatione copiosus plerumque exprimitur, sed exteriora versùs tam valide trudentur liquida attenuata [§ 49.] ut, dimotis obstaculis, quae orificia cutanea claudunt, effluent pleno rivo humores istuc determinati. Atque huc egregie confert opiatum, quod post emeticum dari optimo consilio suadent practici. Vomitorium praeterea evocat squallorem primas vias foedantem, et praecavet

cavet ne exhibito hydrotico, eoque disperso per corpus fomite, manus hostiles in viscera convertantur.

52. Eadem doctrina innuit quanti sit usus emeticum in tenui acrique catarrho, in asthma humorali, aliisque ejusmodi morbis a frigore correpto natis ; quum, sciz. retenta materies perspiranda, vasa eousque inerti fluido replet, ut functiones omnes poenas luant ; quum gravitate pigra sensus hebescant, et ad stateram ferè corporis pondus auctum esse diceres ; distensa denique vasa doleant, partesque sensiles aegrè laceffantur. Cum haec et alia ejusmodi symptomata se produnt, remedium exhibendum est, quod portas referare, liquores superfluos expellere, atque solitam agendi facilitatem corpori restituere possit. Haud parum his confert emesis ; et quacunque corporis parte aegritudo suas sedes posuerit his causis orta, multum valere possit. Ponamus glandulas, caeteraque vasa circa fauces et collum, tanta scatere aquarum copia, ut defluxionem brevi adfore indicent signa, vis mochlica saepe salutaris est. Rubens etenim tumensque facies, oculi scintillantes lachrymis suffusi, liquore suo madefacti nares, et salivae mucique rivi-

rivulum fundentes oris fauciumque lacunae glandulosae, conatus emetici nunquam non comites, liquido demonstrant quanta cum vi appetat has oras sanguis, et quantus in vascula obstipata impetus sit: Dum canales offeī cedere nesciī, et insignes vertebralium et carotidum internarum arcus et ascensūs obliquitas cruoris ad cerebri appulsum valde retundunt: Fluxilis ergo hujus compages minus periclitatur, impetu ut plurimum extrorsum determinato; parum tamen introrsum vis aucta devenit. Et partim forte hinc, partim a virtute stimulante et evacuante, ratio patebit cur in vertigine, hemicrania, aliisque similibus, vomitus tanti sit usus; cur in epilepsia quandoque in senibus adeo profuerit, ut fatentur observatorum scripta: ‘Inveteratam epilepsiam, quae etiam per ‘xx annos aegrum traxit, curatam novi,’ inquit Hoffmannus\*, ‘ab emeticorum usu et ‘specificis antiepilepticis ex animali regno petitis.’ Nec mihi defunt historiae similes; at referre prohibent limites praescripti.

53. Impedit eadem ratio, quo minus horum usus in variolis distincte enarretur; non modo quatenus evacuant, et avertunt alioqui futura mala § 30.], sed ob alios etiam quibus

\* Hoffmanni Dissertat. decad. 1. p. 204.



potiuntur effectus [§ 49.], et eximias inde manantes mutationes. Pustulis refertam esse cutim ponamus, vascula perspiratoria ita compressa ut coactam materiem vis solita nequeat protrudere: Hoc in casu contentorum moles augetur; calor febrilis ita ad interiora exaestuatur, ut organa intus exhalantia adeo arefacta, vel alioquin obstipata evadant, ut suum munus exsequi non possint. Ex utraque parte cohibetur idcirco fluidum, quod diuturnum nimis circuitum jam patitur, quodque longiore mora pessima mala pariturum est. Calor enim nimius acrimoniam gignit, unde stimulus partibus nervosis: Hinc iterum febrilis aestus sitisque, fortasse delirium, huic supervenit; ab aucta fluidorum mole anxietas praecordia infestat: Quum interim calore crassiora deveniunt fluida, coagulantur, et inepta magis redduntur ad exitum sibi aperiendum per ea loca quae saepe indigitat natura, sciz. per fauces vel intestina. Exigunt haec mala coagulati in vasis exhalantibus utriusque loci resolutionem, evacuationem, reliquisque conciliatam fluiditatem, nec aucta interim febre plusquam per lenem opiatum tuto coercere queat. Qui praedicta [§ 13. 18. 39. 49.] de eme-



emeticorum effectibus, tum in fluida, tum in solida, in mentem revocaverit, haec non inepta esse auxilia, imo aptissima forsan praedicabit. De febribus acutis agens Sydenhamus haec profert: ‘\* Saepe miratus sum,’ inquit, ‘dum forte materiem vomitu rejectam aliquando curiose contemplabar, eamque neque mole valde spectabilem, nec pravis qualitatibus insignem, quâ factum fuerit, ut aegri tantum levaminis exinde senserint; nempe vomitu peractô saeva illa symptomata (nausea, v. g. anxietas, jactationes, suspiria luctuosa, linguae nigredo, &c.) quae et ipsos excruciarant, et adstantes perterrefacerent, mitigari solent ac solvi, quodque morbi reliquum est *ευθυμως* tollerari.’ Quum vero ex antea dictis pateat, fluida crassa solvi, canales obturatos reddi tranabiles, totum corpus arefactum humectari, simulque nociva expelli, mirandum non est levamen tam subitum inde evenire.

54. Beneficiis sic cursim enarratis, quae ab emeticis lucrantur morbi acutiores, via sternitur ad alios, in quibus occasio minus praeceps, nec adeo fallax experientia, licet judi-

\* Sydenhami Op. § 1. cap. 4.

cium satis difficile. Vomitoria certe isti morborum cohorti praecipue adversari videntur, qui vel in ipso ventriculo, vel in visceribus prope sitis, ortum sedemque obtinent, et hujusmodi omnes fere morbi chronici sunt. Vitia enim hinc nata longe lateque brevi dispertiuntur, iterumque effectus temeratae salutis ad haec loca revertuntur. Hoc nullibi clarius conspicitur, quam in eis morbis, qui cum mentis alienatione junguntur, quique a pravo victu, vel in eo assumendo errore, ut a causa proxima eveniunt. Licet enim ab animi pathematibus, ab evacuationibus, aliisve causis remotioribus enascantur, victus tamen inepta ratio saepe constituit propiorem. Innumeri nervorum surculi ad ventriculum emissi, neque ad ipsius nutritionem, neque ad motumquemlibet provehendum tantummodo comparati sunt, sed potius ad chylicandi operam adjuvandam. Dispersis itaque nimia copia spiritibus, perditur ex causis sanitatis una; assuetae, scilicet ciborum mensurae, in nostri naturam imputandae, imparia deveniunt instrumenta: Assueta tamen mensura assumitur, et dum caetera aequalia non sunt, necessario enascitur indigestio,

gestio, et inde alia, mala. Haec origo faepissime est affectionis hypochondriacae, et reliquorum quandoque graduum mentis laesae, a vacillatione levissima ad summam usque insaniam. Docent phaenomena hujus morbi in fluidis prae primis haerere culpam, hancque esse nimiam crassitiem, sive partium mobilissimarum distillationem: Haec sunt spiritus animales, halitus cruoris vaporosi, et aquea dein ejus elementa, quorum minus majusve dispendium morbum efficit leniorem vel graviorem, dum sanguis per varios spissitudinis gradus transit, donec in veram bilem, a veteribus atram dictam, degeneret. Quodcunque de hujus morbi natura cognitum habemus, praeceptis chemicis ut plurimum acceptum referendum est, quorum ope hic, uti etiam in aliis bene multis, plurima phaenomena, alioquin abdita prorsus, deteguntur. Ex chemica sanguinis analysi constat, distillatis aquosis, superesse salina, oleosa, terrestria, diversimode conjuncta, sanitatis muneribus parum apta, utpote quae crassiora et leviora sanguine sano. Eadem etiam chemia fidis experimentis demonstrat, oleum, salem, terramque unita, plus aëris in se continere, quam aquam reliquis conjunctam.

junctam. Hujus testis sit calculus humanus. Ergo solida praepollent fluidis, ocyus haec circumaguntur, et augetur tenuioris dispendium, dum crassescens residuum intimam cum diluentibus admistionem respuit. Ingesta haud satis subacta morbo addunt, viscera molliora obstipant, actionem minuunt tolluntve : Hincque splenis, hepatis, hypochondriorum oppilationes, tumores, dolores. Sanatio requirit viscido restitutionem floris et miscibilitatis. Haec fiunt per diluentia, saponacea, et attritum. Diluentia sola parum valere ostendit exposita morbi natura: Sola saponacea, efficaciora licet, raro sufficiunt; adjuvantibus vero attritu et calore, omnem quam possident vim exerunt, docente chemia. Denique attritus in hoc morbo raro per stimulantia vulgaria intenditur, quin haec saepe nociva comperta sint. Inde quidem augetur sanguinis celeritas, sed simul augetur ejusdem rarefactio. Compertum autem est, attritum esse in ratione celeritatis, soliditatis, et compressionis. Si itaque auctae rarefactionis ratio superet rationem auctae celeritatis, inde non modo non augebitur attritus, sed, e contrario, minuetur. Postulatur itaque remedium quod sanguinis celeritatem intendat, rareficientiam  
cohi-



cohibeat. Tale, in nisu vomitus, reperiri, facile ex praegressis liquet. Hinc obiter patet utilitas submersionis in aqua frigida.

55. Huic morbo ex diametro opponi videtur hydrops, in quo lymphæ serosa viscera submergit, et pallescens sanguis corpus deturbat ingrato colore, docetque aquam exuberare, et vitio diverso, oleum, terram, falemque deficere.

Dispositione pituitosa in fluidis suborta (quæ a multiplici causâ fit, quarum aliquas haud inconcinne memorat Poeta \* ,

Corrupti jecoris vitio vel splenis, acerbus  
Crescit hydrops: Aut cum siccatae febre medullæ  
Atque avidæ fauces gelidum traxere liquorem:  
Tum lymphæ intercus vitio gliscente tumescit,  
Secernens miseram proprio de viscere pellem,)

statim ita debilitantur solida, ut torpidos liquores vix propellere possint. Hinc stagnatio in lateralibus vasis, et functionum languor. Indies accumulatur serum, turget, propinqua laedit, et perpetuo renovantur morbi causæ. Si contingat hæc in unico vase, hydatis formatur; si *κατα φλέβας* seu per tunicam cellularem per omne corpus dispersam, fit leucophlegmatia; si ruptum vas effundat contenta in cavum quodcunque,

\* Sammonicus.



localis hydrops suboritur: Si denique (quod saepissime in causa est) actio venarum absorbentium debilitetur, sive ab obstructione in eis nata, sive a mero languore et inertia solidorum; dum suo munere funguntur arteriolae inhiantes, et squalentem laticem sine fine in cavitatem eructant: Hic continuo accumulatus spissescit, vasa omnigena brevi effoeta reddit, et hydropem topicum producit. In hoc morbo curando, primaria morbi causa minuenda vel adimenda est; attenuantia, evacuantia, exsiccantia, roborantia uniuscujusque ordinis usurpanda; ut tandem amoveatur onus humidum, minuatur latex, et vasa eousque viribus instaurentur, ut officio debito fungantur, et fluidorum nativa bonitas redintegretur. Hisce omnibus absolvendis, dicata plurima apud practicos remedia invenimus. Nescio quot specifica celebria ab iis recenseantur, quae uno fere ictu morbum profligent, si fides eorum promissis sit habenda. Displicet aliis haec curta suppellex, et in vitium incidunt contrarium; pomposam memorant farraginem, et remedium cumulo obruunt aegrum. Utraque praxis evitanda, neque solis emeticis curatio committenda, nec sine his tentanda; cum longiores adimant labores, et compendio quasi

quasi rem gerant, quae pluribus adminiculis caeteroquin indiget. Remedia antihydrica, prius memorata, suum opus absolvere videntur, motum et attritum fluidorum ciendo, pellendo, difflando exuberantem lympham. His omnibus simul conducit nifus emeticus fortis, saepius repetitus; crassa quippe comminuit, obstructa referat, propellit stagnantia, humida exsiccat, secretiones aquosas auget, solutum sanguinem compingit, resolvit viscidum, celeriores ad extrema facit appulsus, movetque sudores. Adde, quod ingentem in tumefactum abdomen vim exerit, et quum in hoc tantummodo sedem habet morbus, nec quopiam viscere pessundato, nec in corpore valde senili, et recens sit, repetitis emeticis, bene instituta diaeta, et exercitatione modica, res tuto expeditur, nisi in iis sit, ‘\* quibus inutilis libertas est, nec tam facile coguntur ac ii, qui servitutis beneficio convalescunt.’ In hydropis etiam provectiori gradu haud parum conferre visa est emesis. Idem comprobatur historia apud Forrestum † recitata de quodam hydropico, qui ‘inflatus ventre, manibus, pedibusque et facie, a medicis

\* Celsi medicina, lib. 3. cap. 21,

† Observ. lib. 19. obs. 33.

‘ destitutus, et tanquam desperatus, adiit lit-  
 ‘ tus marinum, et naviculam per aliquot  
 ‘ miliaria ascendit in altum maris, et provo-  
 ‘ cato vomitu, post vomitum exercitio utens,  
 ‘ sanitati restitutus est.’ Huc afferre licuerat  
 Sydenhami suffragium, quod in tractatu suo  
 eleganti de hydropo crebro fert, et senten-  
 tiam de horum commodo plurimis exemplis,  
 iterata observatione ratis, suffulcit; at di-  
 ferta ejus verba in arte seniores probe cal-  
 lent, ad ipsum libellum juniores lubenter  
 amandantur, cujus evolutio,

—————si propius stes  
 Te capiet magis; ————et  
 —————decies repetita placebit.

Hoc tamen in morbo haud mochlicis pugna  
 committenda est, nisi viscera aliaque ita se  
 habeant, ut antea [§ 44.] observatum.

56. Ex enarratis haecenus liquido patebit,  
 in morbis plerisque a colluvie serosa natis,  
 quaenam ab emeticis expectanda sint. Pa-  
 tebit quoque horum usus in morbo qui pueru-  
 lis utriusque sexus infensus, gravis nec infre-  
 quens, rachitide scilicet, qui a vitiis in ab-  
 domine natis, ad medullam usque dispersis  
 saepius productus, ipsa corporis fulcimenta  
 pedetentim suffodit, et durissima ossa, inflex-  
 ibilia fere, nimis facile flectenda reddit.  
 Mali ortus et progressus, curatoria indicata,  
 nec

nec non ratio, qua huic morbo vomitoriis iteratis occurri possit, ex sequentibus clarius cernuntur\*.

*1mo*, Ossa, quae in toto corpore jam solidissima sunt, olim gelatinae flexiles, membranae, cartilaginee fuere, quae paulatim durescentes, per diversos soliditatis gradus, ossa tandem fiunt rigida.

*2do*, Hujus indurationis causa duplex existit, materiae, scil. ossificae a sanguine secretio, et secretae appositio firma, sive compressio particularum ad se invicem fortis. Haec effecta sunt virium vitae integrorum, et musculorum vicinorum incumbentium. Ideoque,

*3tio*, Si sanguis particulis ossium structurae idoneis minus dives sit, secretio minor erit, et muneri suo ineptior. Porro, si absit actio musciosa, et vires langueant, altera causa ossificationis abest. Hinc itaque,

*4to*, Liquet istas conditiones, quae rachitidem parere possint, omnes ejusmodi esse quae chylopoiesin et haematopoiesin depravare solent. His ergo imprimis erit prospiciendum, et medicina id genus eligenda, quae et vitium in ipsis officinis diversimode corrigat [§ 18. 27. 39.], auferat, nocivos ejus

\* Vid. Alex. Monro's Anatomy of human Bones, p. 34, &c.  
effectus,



effectus, in aliis locis pullulantes, emendet, atque impetus motusque formantis defectui optime subvenire possit [§ 49.]. Viscerum quidem saburram feliciter educunt purgantia : Sed si fortiora fuerint, aut nimis saepe repetita, vires prosternunt admodum, crassiora relinquunt, sed vapida, et obstructionibus creandis magis opportuna ; et debilia jam facta solida adhuc debilitant. Emetica valide expurgant viscera, nec vitae viribus adeo funesta, solida corroborant ; imprimis si victus accuratus instituatur, si corpus in frigidam saepe immergatur, si denique specificis leniantur subinde nata symptomata.

57. An in arthritidis insultibus utilis sit vomitus necne, quibus, quando, et quoties exhibendus, definire haud leve est. Illi, quorum auctoritas mecum prae plurimum valet, in paroxysmis omnino ejus usum dehortantur, nisi urgeant nausea, vomitus, aliaque ventriculi sorde scatentis signa ; et tunc lenitummodo admittunt. Alii \* vero haud infimi subsellii medici stant contra ; urgetque unus †, se observasse ‘ insultus arthriticos consuetos, perpetuo fere mitiores, quando statim inter initia leni emetico, vel solo,’

\* See Dr. Cheyne's Essay upon the Gout, p. 77, &c.

† Hoffmanni Dissert. decad. I. p. 411.



‘ vel cum laxante mixto, prima regio a fordibus  
 ‘ evacuata fuerit.’ Qui valet, has lites dirimat :  
 Ego, iis missis factis, emeticorum usum in alio  
 ejusdem morbi stadio demonstrare paucis cona-  
 bor; id est, inter paroxysmos, ad futuros aver-  
 tendos. Acris illa materies, in angustis hae-  
 rens, et dolores cruciantes excitans, post exa-  
 cerbationem podagricam (si recte res geratur,  
 nec intempestivo medicaminum externe vel in-  
 terne applicatorum usu suffocentur incepta na-  
 turae) expellitur, sudor lenis locum affectum  
 perfundens; vel, si deterius adhuc malum, et  
 sedes habeat profundiores, erumpens tophus,  
 insequens inde levamen, symptomatum omnium  
 remissio, hanc evacuationem criticam fuisse de-  
 signant; ideoque morbi fomitis in sanguinem,  
 partesque nobilioribus vitae functionibus dica-  
 tas, nequaquam metuendus erit regressus, sed  
 quod morbi jam superest instar alius cujusque  
 chronici saevioris abigendum. Fluida, si pra-  
 va sint, mendis purganda, infirma solida robo-  
 randa, vires totius corporis instaurandae, stirps  
 denique atrocis mali quantum valet ars succi-  
 denda. His plurimum confert medicina gym-  
 nastica, quae prae caeteris aliis suppetiis in-  
 fracta membra nova virtute reficit. Equita-  
 tio, vectio in rheda, curru, &c. sunt optima  
 subsidia. At quoties haec prohibet parum  
 amica tempestas anni? Hyeme aut vere sae-  
 \* F  
 pissime

piffime contingit podagrae decessus, pejùs tamen adhuc si autumnò intermittat. Aër enim humore gravis frigidusque foras egredi omnino prohibet; atque intra porticus, vel domus penetralia, pedibus insistere, aut motu quovis corpus torqueri, aegre admittunt artus distorti, et nuperis cruciatibus claudicantes. Frictio sane leviter tantummodo mundat exteriora, neque evacuat e visceribus pituitam, quae ob omissum tamdiu motum ea necessario gravare incipit. Praeterea raro defunt aegro gratulabundi sodales, qui pignus amicitiae charius dare nesciunt, quam propriam salutem poculis evertere, hominisque ex morbo recreati exitium moliri, dum sanitatem pristinam verbis exoptant, revera autem insidias sanitati struunt. Ex his atque similibus causis, emeticum saepe saepius perquam necessarium est convalescentibus, neque ex praedictis colligere arduum erit qua ratione exercitationis etiam fortioris vice fungatur. Patet etiam quibus modis actionibus animalibus opitulentur vomitoria, crassa quomodo subigant, denique plus minusve singulis indicatis respondeant: Neque verentur ex practicis sagaces, bis in mense, saepius quandoque, istiusmodi hominibus vomitum praecipere. Perspectis itaque horum commodis in chronicis plerisque, eos morbos levi pede percurrere animus est, qui sexui sequiori tantummodo infesti sunt.

58. Non modo vitae ratio, sed ipsum fere vitale stamen, foeminis molliorem ac laxiorem temperiem dedisse videtur, nisi fors durior alienam impertita sit, atque mens sana, in corpore sano laboribus improbis indurato, eis firmitudinem donaverit masculae vi omnino aemulam. Est tamen vitae stadium, quo etiam haec mulierum conditio ex errore levi pessimis obnoxia malis evadit; eo, scilicet, quo sexus discrimina jam adfutura sint, id est, ad vel circiter annum aetatis 15: Huc usque enim, sensu medico, genus unum idemque est. In quibus autem discrepant, quare, quae causae physicae discriminis, referre non opus est; fusius ea ab aliis tractantur. Sed brevis morborum recitatio, quum lucidiori argumentorum explicationi inservire possit, proposito haud incongruum videtur.

1mo, Adveniente molis augmenti termino, eadem organa, quae corpori virgineo pabulum ministrarunt et incrementum, plus pergunt conficere quam sola corporis nutritio jam exigit; quod superest sanguinis per vasa uterina jam periodice emittitur. Si diutius retineatur, ob deficientes vasorum vires, vel impeditum exitum, plethora plethorae superadditur, et morbi virginei indicia cito sese produnt.

2do, Si vero aquosus, solutus, vel acris sanguis uterum pervadat, et momentum absit quo



dilatentur vasorum oscula, eousque ut rubrum sanguinem deponant; is lateralia permeat, in glandulas, quae cavum uteri ubique obsident, infunditur, crassescit; exit tandem liquor viscosus, colore diversus, nunc albus (a quo *fluor albus* appellatur) vel albicans, vix lintea tingens, flavescent, viridescens, nigricans, et omnibus affectus coloribus qui inter hos existunt; nunc sine foetore transit, nunc graveolet; nunc mitis, ut in initio plerumque, et diutius vigente morbo acrior, coloratior, foetidior evadit. Patientes glandulae tenuiores quoscunque separant humores, et eliminant; inter quos nutritivos, qui solidis vigorem, momentum fluidis suppeditasse debebant. Hinc indies a viribus aliquid subtrahitur, perit membrorum virtus, labitur digestio, vitio magis indelebili fluida corrumpuntur, et per totam corporis oeconomiam serpit labes, qua nulla (expertos asserentes audivi) ex toto chronicorum agmine, sexui crudelior, curatu difficilior, aut effectibus exitiosior. Nam fatiscunt imprimis instrumenta ipsa, quorum ope caetera reparari debuerant, et morbi sedes in viscere ponitur, cui omnium difficillime fit medicina. Id quidem haud cito labefactatur, sed si semel infectum fuerit, vitium diu servet; ‘Quia pars est,’ inquit Forestus\*, ‘quae prompte recipit aliarum partium excrementa, tum ob

\* Foresti Observ. lib. 28. obs. 21.

‘fitum inferiorem, tum ob multitudinem venarum eo pertingentium, tum etiam propter consuetam illam naturalem purgationem.’ His adde compagem solidam et vasculosam, remediis, quorum vires longo circuitu decoquuntur, antequam huc deferantur, haud facile cedentem. Etiam, post emendatam cruoris indolem, laxa glandularum fabrica pertinaciter obstat medelae, atque ea medicamina, quae harum mollitiei aduersantur, constringunt quoque arteriolarum orificia, et molestiorem reddunt menstruationem. Laxitas nativa, victus prava ratio, vita deses et luxuriosa hunc morbum plerumque inducunt. *Rarius enim, ut ab eodem Foresto observatum, id pati visae sunt agrestes mulieres.* Eadem quoque † fluxum uterinum suppressum saepe praecedunt. Remedia ergo hisce morbis adhibenda sunt, quae noxis, ex istiusmodi causis subortis, obviam eant; neque vomitoria repetita omittenda sunt: Praeter enim effectus, qui haecenus indicantur, stomachum expurgandi, solida stimulandi, et sanguinem mire atterendi, hunc tanto impetu versus uterum propellunt, ut exempla prostant § in quibus sola vis ejusmodi mechanica tardatum fluxum repente profuderit. Atque, nisi δυσμηνς sit aegra, vel incommode ferat emetici actionem, haud minora in fluore albo quam in plerisque chronicis expectanda sunt. Saepius

† Opera Doctoris Freind, p. 67. 80.

§ Plateri obs. med. p. 191. Hildan. obs. cent. 3. obs. 58.



autem in hoc morbo motu levissimo fatiscunt vires, unde incommodi plus quam fructus accipiunt. Hoc ergo in primis indagandum, priusquam porrigantur emetica aegris hujusmodi.

59. Nihil etenim ex omni parte perfectum atque beatum: Sua secum trahunt commoda, et etiam incommoda, vomitoria; nec minus verenda haec, quam appetenda ista, si forte infelici auspice porrigantur. Infausti autem eventus remedii utilitatem haud minus praedicant quam effectus optabiliores; insitam ejus vim demonstrant, efficaciam probant, dum porrigentis imperitiam vel temeritatem redarguunt, nec hominis excidii reum habendum est medicamen, sed manus quae inepte vel intempestive ministrant. Quamvis autem, ex tradita de emeticis doctrina, facile perito patere possit, in quibus casibus utilia, in quibus nociva sint; haud tamen alienum est, ut brevi horum morborum enarratione claudatur dissertatio, in quibus vomitus imprimis vitandus.

Imo, Nativa corporis structura apud nonnullos \* scriptores causa exstat, quo minus quibusdam propinentur emetica; quibus habitus macer et gracilis, collum extensus, pectus angustum, atque ad vomendum difficultas; quibus denique sanguinis sputum, animi deliquium, tussis molesta, familiaria fuere, ab emeticis liberati sunt: Qui vero contraria temperie praediti

\* Vide Fallopium de purgant. p. 81.

sunt, horum usum salutarem ex consulto medicorum saepe sunt experti. In vehementiorum usu haec sane perpendenda sunt, ne forsan temeritatis vel incuriae poenas luamus; nec in leniori vomitu praecipiendo penitus omittenda. Idiosyncrasia quaedam, experientia aegroto cognita, at a medico, nisi ab ipsa didicerit, nunquam detegenda, hujus vel illius medicaminis usum vetaret, quod aliter ab ignaro porrectum multa mala est pariturum.

2do, In morbis inflammatoriis, ubi sanguis adusto lentore inquinatur, immeabilis in arteriarum finibus sistitur, neque vi propellendus; ut in febribus acutis, inflammationibus topicis, pleuritide, phrenitide, hepatitide, aliisque ejusmodi; vires vitae minuendae potius quam provehendae: Ergo, peracta accessione, urgente saevissimo dolore, tutum non erit emeticum.

3tio, Neque, si multum laedatur visceris, sive partis alicujus actio, quae tonica dicitur, sive aequilibrata potentia, qua solida fluidis reniti deberet, minuatur, emetici fortioris vim mochlicam experiri licet, antequam ratio partis habita sit, an tantae vehementiae impetum commode ferat, vel incommodi majoris fiat particeps. Sic, v. g. in hydrope abdominali exsiccat emeticum, sed tumorem pro aliquo saltem tempore extendit.

4to, In pulmones emeticorum vis sane ingens est, quia nisu vomitorio tam subito per eos dimittitur sanguinis inassueta moles, qua distenduntur vasa, comprimuntur vesiculae, quibus

fortiter reagens intra detentus aër, pressuram validam longe validiorem reddit; et, si dehiscencia prius vasa sanguinem effuderint, vulnuscula certo certius ampliata haemoptoen augebunt. Quin et in incipiente haemoptoe, ab externa causa producta, dum sanguis adhuc blandus, nec sordida tabe contaminatus, vix fere ad emeticum licet confugere, quo e vesiculis pulmonicis excutiat latens cruor, qui, stagnando corruptus, morbum, alioqui haud periculosissimum, intenderet. Pulmonicis igitur vix porrigenda sunt, nisi puris inundatio pulmones obruat, et lethum a suffocante materia, aliàs inevitabile, adfuturum sit.

5to, Denique, cavendum est ab horum usu in eis morbis, qui pro causis agnoscunt sanguinem multum crassum, pituitam valde tenacem, copiosam, pene immobilem, aliamve quamcunque huiusmodi materiem, cerebrum et nervorum fontem gravantem, ut gravior apoplexiae, paraplegiae, hemiplegiae species, veteris, carus, et ejusmodi. Altius enim morbum plerumque figunt, vel in ipsa forte operatione hominem interimunt. Vix ab eorum usu dehortatione opus est, licet aliqua symptomata ea necessaria esse alioquin innuerent, quando imminet adhuc haemorrhagiae metus, post vulnerata aut detruncata membra; vel denique quando per ampliores abscessus, aut aliud quodcunque ostium, apertus paratur exitus, per quem facto ingenti impetu emanet cum vita cruor.

II. *Remarks on the Neutral Salts of Plants,  
and on Terra foliata Tartari* \*.

CHEMISTS, who prepare the lixivial Salts of Vegetables, generally take care, by the means of hot water, and sometimes repeated affusions of it, to get every thing out of the ashes that is soluble ; and when they evaporate this solution, they employ the Salt which is obtained from it as a pure alcali in other operations, either not knowing or neglecting the Neutral Salt, which Boerhaave says †, is mixed with it, and is *sui generis*. In an operation which I was lately employed in, the necessity of considering the effects of this Neutral Salt was evident, and I could determine the genus to which the greater part of it belonged.

An ingenious Chemist of my acquaintance, intending to make a large quantity of *Terra*

\* From Medical Essays and Observations, published by a Society in Edinburgh, Vol. V. Part I.

† Chem. Proc. 14.



*foliata Tartari*, used for that purpose the *lixivial Salt of Fern*, carefully made in the country by a person well skilled in practical chemistry, careful and exact. Some of this Salt was fluxed, the rest was a clean lixivial Salt; each kind was saturated by itself with strong distilled vinegar, eight or nine times the weight of the Salt being sufficient of the vinegar to fully saturate the alcali of both parcels; whereas usually fourteen or fifteen times the weight of the Salt is requisite of the vinegar to make a perfect saturation.

The saturated liquors being filtrated, and carefully evaporated to a mellaginous consistence, hissed and crackled where it hardened on the sides of the vessel, and did more so the nearer they came to dryness, shewing hardly any marks of a disposition to flow, which commonly happens when the saline liquor is so far evaporated.

No methods which the operator, who is a very expert artist, could then fall upon, served to make the process succeed.

The



The Chemist having informed me of the case, we could discover no fault in the materials, vessels, or operation ; but suspecting the Neutral Salt to be the cause of the process not succeeding, we dissolved all the refractory mass in warm water, set it to cool, and had a considerable quantity of neutral crystals, several of them exactly resembling those crystals delineated in Tab. I. of your Vol. I. which were procured by Dr. Plummer from *Moffat* water ; only ours were more perfect, which was owing probably to the large quantities of materials we had. Most of the crystals were cubical, which joined differently, and mixed with other Salts, made a surprising variety of figures, which cannot well be described in words ; but I have sent some of them of different shapes in a box. It was plain from their figure and taste, and by experiment, that common *Sal marinum* made up a great part of what we had ; the rest might not unjustly be called partly a *Sal Polychrest*, partly the essential Salt of the plant.

We were obliged to repeat this operation for obtaining those crystals, before we could obtain a Salt which flowed and foliated; the crystals deposited each time were more bitter and more pungent, though in form resembling the first we got; the *Terra foliata* did not flow nor foliate so freely, nor were the foliations so large or so white as usual.

It is with reason then that Boerhaave orders \* a *Sal Alkali purissimum* to be used in the preparation of *Tartarus regeneratus*, or *Terra foliata Tartari*; and the Dispensatories which order *Sal Tartari*, direct the Chemists to more certain process than when they are left at liberty to employ what they will. The Chemists in Town here mostly use the *cineres clavellati* in this process, and succeed very well, or make the Salt with large foliations and white; and perhaps this is the only one of all the neutral saponaceous Salts, which is more efficacious the whiter and purer it is.

\* Chem. Proc. 67.

The principal reason why Chemists succeed better in making *Terra foliata Tartari* with *cineres clavellati*, than with any other of the lixivial Salts, seems to be, because those who prepare the *Potash* content themselves with letting cold water run thro' large tubes or vats filled with ashes, till it has washed so much from them as to make a *lixivium* support an egg; by which operation, little of the Neutral Salts are dissolved to mix with the *lixivium*; and probably in drying the *lixivium*, what of the Neutral Salt is in it, is forced by the fire to the surface, to form that crust which it takes in burning the straw that is wetted with it.

That the ashes which remain after the *pot-ashes* or Salts are extracted, contain much of the Neutral Salt, is evident from their serving so well the purposes of agriculture, being preferable to sea-salt for all such purposes.

How such a quantity of sea-salt should be contained in vegetables, is an enquiry foreign

to your design, and therefore I shall not mention my opinion of this phenomenon : I believe it will not, however, be unnecessary to remark, that Physicians ought to consider, that the proportion of this Neutral Salt, mixed in alkaline ones, is often different ; the more is thus mixed, the less acid is required to saturate a given quantity : Hence it frequently happens, that the medicine we intend should be perfectly neutral, is very acid, and entirely disappoints our expectations \*.

\* It is common here to prescribe one scruple of Sal Abfinth. to half an ounce of Succ. Limon. To learn how far this proportion was just, I procured six parcels of Salt of Wormwood, and six of Salt of Tartar, from shops in different parts of the Town : I procured likewise a quantity of lemon juice, sufficient for all the trials I intended. Half an ounce of this juice was saturated with 18 grains of one of these parcels, and required 32 of another to reduce it to the same degree of neutrality. This difference was owing to the Neutral Salt contained in the last, which was really procured from Wormwood ashes, and carefully lixiviated with hot water.

The specimens of Salt Tartar were more alike ; they varied only from 18 or 19 grains to 23 or 24. The fresh Salt of Tartar is a pure alkaline Salt ; if it is exposed to the air, it absorbs the acid contained in it, and thus becomes neutral in proportion to the time it has been kept, or as it has been exposed to the air.

Wherefore, in directing the common saline draughts, it would seem that 24 grains is a much more suitable proportion  
than

With respect to the process for making the *regenerated Tartar*, it may not perhaps be without some use to observe, that the more vinegar is put to it, the *foliations* will appear larger and whiter, though it is the more expensive, because whatever vinegar is bestowed on it, the operator must expect very little more Salt than the weight of the alkali made use of.

The addition of some more than the ordinary proportion of vinegar not only contributes to render the Salt finer, as by repeated trials we found it did, but also prevents it from becoming too alkaline; for was it to be brought to an exact *punctum saturationis* before it is committed to the fire, the heat necessary to evaporate the liquor and flux the mass would render it more of an alkaline corrosive, than of a neutral saponaceous nature. This induced me to remark, that its whiteness may be esteemed as a mark of its

than one scruple; and if to this mixture we add a scruple of some absorbent, as crab's eyes, &c. we shall probably have a mixture more perfectly neutral, than we shall be able in common to obtain by any other method of prescribing.



goodness ; it arguing that a proper quantity of vinegar has been used, and it may be rendered whiter and more pure by repeating the dissolution, evaporation, and fluxion.

The *Tartarus regeneratus* taken from the quantity of half a drachm. to two drachms, is an excellent alterative and diuretic ; and from three to six drachms is a very mild cathartic, that never sinks the spirits, or raises any violent disorder, and particularly is serviceable to several dropical patients : of its service this way allow me to mention one history.

A Married Gentlewoman, 48 years old, childless, a little corpulent, was repeatedly affected with an immoderate discharge of the *menfes* ; soon after her belly began to swell, her legs grew œdematous, all the symptoms of a dropfy appeared. She was treated with the strong and gentler cathartics, diuretics, aperients, and corroborants ; but this bad circumstance always attended evacuants either by stool or urine, that they never failed  
to

to produce a discharge of blood from the *vagina*, which sunk her prodigiously. Corroborants, especially of the astringent kind, soon stopt the flux ; but at the same time, contributed to encrease the swelling, by lessening the discharge by urine and stool. She then began to take three drachms of the *Terra foliata Tartari* once or twice a-week ; it gave her two or three stools, with a large evacuation of urine, without exciting the menstrual discharge, or affecting her strength : she continued the use of it for upwards of a year, without encreasing the dose, or attempting any other relief than what that gave her, which was very great. Whether it would have made a complete cure, I cannot say ; for having taken a rough purgative, she had her days shortened by it.

III. *Essay upon the Origin of Amber* \*.

AFTER all that has been wrote upon the subject of Amber, its origin is yet, in a great measure, unknown. Several ingenious men have searched into this affair upon the spot where the Amber is principally gathered: They have related their observations with great candour; they have given us the conclusions they drew from the facts they discovered; yet without satisfying us entirely about many particulars.

But as a knowledge of the nature of things can only be acquired from the things themselves, I have carefully collected every material fact I could meet with from those who were best acquainted with the natural history of this subject, and whose industry and accurateness in observing, and good faith in relating their observations, have been generally esteemed unexceptionable. Of these I shall only mention *Wigandus*, *Hartman*, and *Sendelius*,

\* From the Philosophical Transactions, No. 472.

the last who has wrote, as far as I know, professedly upon this subject.

The evidence which these Gentlemen afford us I have endeavoured to throw together, in the most natural order I could, without respect to any hypothesis: but as this enumeration of facts admits of no abridgement, my papers would take up too much room in your memoirs, therefore I can only refer to the Essay itself. Upon this foundation of facts is built a discussion of the following problems:

1. Whether Amber is not strictly a marine production; or is reduced by some quality of the sea-water into the condition we find it in? Or,
2. Whether it is not to be considered only as a bituminous body, generated in the bowels of the earth? Or, lastly,
3. Whether it is not, in its origin, a vegetable production, a resin; but changed into its present form by a mineral acid?

It will only be necessary, in this place, to mention, that, after having shewn the difficulty of maintaining the two first, I have undertaken to support the last of these opinions.

I endeavour to make it appear, that Amber was, in its origin, a vegetable resin; the product, perhaps, of the fir or pine kind; by considering the appearance of the substance itself: and that though it has some distinguishing properties, yet it has many others, which are common to an indurated resin. Its aspect, its texture, its form, are arguments for this. The bodies which it is known to inclose are urged as proofs, that this inclusion could not happen in the sea, nor in the earth, but upon its surface; as the included objects are mostly animals, mostly volatiles too; very few reptiles, except such as are often found aloft in trees, as ants, spiders, &c. and scarcely ever any aquatics, are found in amber. And, I believe, I may challenge all the cabinets of the curious to produce one instance of a marine body having been found naturally inclosed



in Amber. That there are several fictitious ones is granted.

That this resin with the trees which afforded it were buried in the earth by the deluge, or by some such violent renversement, and there constitute the proper veins of Amber, I likewise endeavour to make appear, from the same evidence of facts. The substance of which these veins consist hath several genuine characteristics of wood still remaining. The texture of this substance is often an undoubted proof of what it hath been; being fibrous, and, when dried, swims in water, and burns like other wood. The amber is not disposed in these veins in one continued *stratum*; but lumps of it are irregularly disseminated through the whole of what I call the woody mass.

A difficulty, which naturally offers itself in this place, is attempted to be removed: What proof have we that this, which is called wood, is not mere fossil wood, the product of creating power, exerted in the place where it is now found? It is answered, that as  
there

there are undoubted proofs, that many substances now occur, where they were not originally framed, we are under no greater difficulty in accounting for the change of place in one than the other. It is known that the *exuviae* of fishes are sometimes found on the tops of the highest mountains. The bones of large animals are met with at prodigious depths, where nature never formed, nor art conveyed them. Whole woods are found under-ground. The cause that effected these was capable of the other.

Yet, allowing these allegations to be just, by what causes is this change produced? It is urged, that time is one of the causes; and that the rest is completed by the acid of the earth, a vitriolic mineral acid. It is proved, from the facts above-mentioned, that such an acid is present wherever Amber occurs in its *proper matrix*: that it is sometimes found in the Amber itself, in its genuine appearance; that the acid of the salt of Amber appears, from experiments, to be vitriolic; that common turpentine (a known vegetable resin) affords, by proper management

ment with a vitriolic acid, a considerable portion of the same chemical principles that Amber does; that those pieces of Amber, which have been found soft and imperfect, are nearly related to a vegetable resin: in short, it is endeavoured to be proved, that we have the ingredients of Amber in our power, and that nothing is wanting but a successful application of them to each other; at least to procure the medicinal preparations of Amber at an easy expence. Time and repeated trials may, perhaps, ripen this beginning, in somebody's hands, into an happy useful imitation of this valuable substance.

This account is concluded with an enquiry into the medical virtues of Amber, and some of its principal preparations. It is observed, that a substance of so firm a texture, as scarce to yield to any common *menstruum*, is not likely to produce any considerable effects upon the human body; and that, indeed, there are very few genuine instances recorded of any: that busy imagination might, probably, at first, introduce it, prejudice support it, and engage men of  
parts

parts and authority to recommend it to their inattentive successors.

I shall finish this abstract with remarking, that were some of the leisure moments of men of great abilities and experience devoted to inform the world of the inefficacy of such methods and medicines as they have proved to be so, Physic would be reduced into narrower bounds; they would merit the thanks of every one in the profession; and posterity, at least, would commend their endeavours.

IV. *Obser-*

IV. *Observations on the Manna Perficum*\*.

IT does not appear very plain, from any thing that has occurred to me in the writings of the elder Greek physicians, that they were much, if at all, acquainted with any substance that now goes under the name of *Manna*. They had the term, but applied it to a subject very different from what we do at present. The ὑποσεσµα τῆς Λιβανωτῆς or the *Micæ thuris concussu elisæ*, the bits broke off from the *Olibanum* in carriage, was the substance they knew by that name.

If the *Arabians* did not first of all introduce some kind of purging *Manna* into practice, they at least rendered the use of this drug more common and extensive. Their country afforded several species of it; which being familiarly known, is, perhaps, the reason why no descriptions have been left sufficiently clear, whereby to distinguish them from each other. Whoever has consulted the Arabian writers, or the best of

\* From the Philosophical Transactions, No. 472.



their commentators, will allow that their accounts are defective.

That they had three sorts of this drug, distinguished by the names of *Manna*, *Tereniabin*, and *Siracost*, is certain; but whether these are now known, or by what appellations, has been very much disputed.

Rauwolf, in his Itinerary published by Ray, and Tournefort, in his Voyage to the Levant; have given the clearest intimations of any writers that I know of: if to these we add Clusius, we have all that we have to expect of certainty, amongst those who have mentioned it; they being eye-witnesses of what they wrote. Yet the descriptions of these are either so imperfect or unknown, that a very late writer upon the *Materia Medica* \*, either not having seen or understood them, has fallen into a mistake about the *Manna Arabum*, and his authority may perhaps mislead others.

My worthy friend Peter Collinson, having procured a sort of *Manna* from a Gen-

\* Geoffroy Traçtat. de Mat. Med. vol. 2, p. 586, &c.

tleman at Petersburg, under the title of *Manna Persicum ex planta Al-Hagi Mauro-rum*, was pleased to favour me with a specimen of it: I consulted the principal writers on the *Materia Medica*; and finding their opinions to be frequently opposite; and their accounts in general perplexed, I imagined it would not be unacceptable to the curious to have such a description of this species as would probably make it clear, that we have one kind of the *Manna Arabum* still extant, viz. the *Terniabin*, and prevent any future mistakes about it.

The specimen of *Manna* that now lies before me appears, at first sight, to be a dirty reddish brown-coloured mixed mass; which, upon a nearer view, is found to consist of

1. A great number of globular, crystalline, almost pellucid bodies, of a yellowish-white colour, and different sizes; the biggest not much exceeding a large coriander-feed, or a very small pea.

They differ from grains of Mastich, in being more upon the reddish cast; but in figure and transparency it varies not much.

2. Some small sticks like prickles, and others like footstalks of leaves or fruit.
3. A few narrow-pointed firm small leaves.
4. A large quantity of long reddish-coloured pods, of a sweetish gelatinous taste, containing from one to six or seven hard, irregular, somewhat kidney-like seeds, which to the taste are very acerb. And,
5. Some sand and earth. Four ounces of the *Manna*, dissolved in warm water, left one ounce or something more of these in the filtre.

The globules (No. 1.) are hard, and break between the teeth like sugar-candy; they are of a pleasant sweet taste, with much less of the *Manna* relish than the Calabrian; but with enough to discover to what family this substance belongs.

The

The sticks, leaves, pods, &c. seem to be parts of the plant that produces the *Manna*. Some of the seeds have been sown, and proved so fresh as to afford some plants of the *Albagi*.

About the year 1537, when Rauwolf wrote his Itinerary, it appears, that large quantities of this kind of *Manna* were brought from Persia to Aleppo, where it was then known under the name of *Trun-schibil* or *Trunscibin*; a corruption, doubtless, of the antient *Terenjabin*; or, as it ought to be wrote, according to Deusingius\*, *Terengjabin*.

Rauwolf informs us, that this species of *Manna* was gathered from the *Albagi*; a plant which is minutely described by Tournefort †, who also confirms the account which Rauwolf had long before given, with the following particulars:

“ It is chiefly (says he) about Tauris, a city in Persia, that it is gathered, under

\* Deusingius Tract. de Manna & Sacch. p. 11.

† Tournefort's Voyage to the Levant, vol. 1. p. 247, 248.

“ the name of *Trungibin* or *Terenjabin*, men-  
 “ tioned by Avicenna and Serapion. Those  
 “ authors thought it fell upon certain prickly  
 “ shrubs; whereas it is only the nutritious  
 “ juice of the plant.”---He adds, “ that,  
 “ during the great heats, you perceive small  
 “ drops of honey upon the leaves and branch-  
 “ es of these shrubs; these drops harden,  
 “ in grains about the bigness of coriander-  
 “ seeds: they gather those of the *Albagi*,  
 “ and make them into reddish cakes full of  
 “ dust and leaves, which alter the colour,  
 “ and lessen its virtue. This *Manna* is much  
 “ inferior to the Italian. The ordinary dose  
 “ is from 25 to 30 drams.”

Clusius \* informs us, that the *Terniabin*  
 of the modern Arabs is gathered from a  
 prickly shrub, such as the *Albagi* is descri-  
 bed to be. Avicenna †, according to his  
 present translation, tells us, that the *Terenia-*  
*bin* falls *super lapides*; but || Deusingius says,  
 that it ought to be read *super Albagi*; and

\* Clus. Exotic. vol. 2. p. 164.

† Avicen. Oper. tom. 1. p. 404.

|| Tract. de Manna, p. 19.



that his translators were led into this mistake from the resemblance betwixt *Al-Hhagier* (the word in the Arabic text, and which signifies a kind of thorny plant, such as the *Albagi* is said to be) to *Al-Hagio*.

It is therefore evident, that the *Manna Persicum*, now before us, is the *Tereniabin*, *Terenjabin*, *Terræjenbin*, or more properly the *Terengjabin*, of the old Arabians, and of Clusius; the *Trungibin*, or *Trunschibil*, of the latter, of Rauwolf and Tournefort; very probably the *Manna Mastichina orientalis* of Matthioli and Bauhine; as it is the *Mastichina* and *Albagina* of Geoffroy; tho' this author makes the *Tereniabin* a species of *Liquid Manna* \*, in complaisance to his countryman Bellonius; who, tho' in general a diligent observer, yet, in this case, was misled by the Caloyers, or Monks of Mount Sinai.

Bellonius says, in his *Observations* †, and more largely in his *Treatise de Arboribus*

\* Traët. de Mat. Med. tom. 2. p. 587

† Bellonii Observ. apud Clus. p. 129.

*perpetua fronde virentibus*, that these Caloyers collect a kind of liquid *Manna*, which they call *Tereniabin*; that this species was known in the shops at Cairo by the same name; and that this is the *Mel roscidum* of Galen, and the *Mel cedrinum* of Hippocrates.

I think it is very plain, that Bellonius was mistaken in the first part of his assertion, from what has already been advanced. The Caloyers told him, that they called it *Tereniabin*; and he takes it for granted, that it was the *Tereniabin* of the old Arabians, contrary to their own accounts supported by the testimony of their successors, who are known to vary as little as any people whatever from the traditions and customs of their predecessors, and still retain a great many of their appellations. For proof of this, I need only refer to the accounts which Rauwolf, Tournefort, and Dr. Shaw, give us of those people.

That this liquid *Manna* was the Δροσόμελι *seu* Αερόμελι of Galen\*, and the Μέλι κέδρινον of

\* Galen. de Alem. Facult. l. 3. c. 39.

Hippocrates †, (supposing there is no mistake in the text), seems very probable. The description which Galen has left of the *Mel roscidum*, and the manner of collecting it on Mount Sinai in his time, tallies exactly with Bellonius's account; and thus far, I believe, all authors agree: but that the virtues of *Manna* were known so early as in the times of these two authors will be difficult to prove.

Galen takes notice of this *Mel roscidum* more as a curiosity than a medicine. He nowhere, that I know of, mentions its use, or describes its qualities. He introduces the account of it with a *Memini aliquando*, and says, that the *Mel roscidum* was rarely met with in his country, but was gathered at Mount Sinai every year: and, indeed, from the manner in which it is spoken of by an old Greek writer in Athæneus, as cited by Salmasius, it would seem that it was only used for pleasure, as an agreeable sweet, *Melle ipso suavius*; and probably continued

† Hippocrat. de Ulceribus, p. 876. Edit. Foesii.

to be of no other use. Mesue tells us\*, that Galen mixed *Manna* with *Scammony*. In the spurious piece *de Dynamis*, ascribed to Galen, *Scammony* is ordered to be mixed with honey; but he never once mentions *Manna* in any of his extant writings. As Galen is known to be very minute in his account of the *Materia Medica* of that time, his silence is a strong argument against the supposition, that even the *Mel roscidum* was in pharmaceutical use, much less any other species of *Manna*.

If Galen was unacquainted with this substance, it is very probable that Hippocrates was so likewise; since a drug that must have made a considerable figure in his *Materia Medica*, would not have soon been struck off the list, or dropped into oblivion and disuse.

But how shall we get rid of the Μέλι κέσθρινον; the name sufficiently intimating what substance was intended? Perhaps Foësius's suggestion may help us. He thinks,

\* Mesue de Simpl. c. 8.

that



that the words might have been read with a comma intervening, whereby we should have had two distinct well-known substances, honey, and the resin of the cedar; two simples that were then, and continued long after, in familiar use; instead of one, which he mentions no where else, and seems to be unknown some ages after.

Upon the whole, I have not hitherto met with evidence sufficient to induce me to believe, that either the *Mel roscidum*, or any kind of *Manna*, was in common medical use either with Hippocrates or Galen. Actuarius mentions it once †, and, as I know of, only once: he makes it a purgative, and to be somewhat stronger than *Cassia*.

It is now pretty generally known, that the *Mannas* in use are not a *Mel aerium*, or honey-dew, as was long believed, but a *Succus proprius* issuing out of some particular trees, at proper seasons, and in some climates only; and that, during the summer's heats, a great number of vegetables, in al-

\* Actuarius, Method. Medend. l. 5. c. 8.



most all the temperate countries, afford a juice somewhat a-kin to Manna, from whence the Bee collects and prepares her honey. It may not, however, be amiss, nor very foreign to our subject, to exhibit a short account how the *Manna Officinarum* is collected.

In Calabria and Sicily, in the hottest part of the summer-months, the *Manna* oozes out of the leaves, and from the bark of the trunk, and larger branches, of the *Fraxinus*, or Calabrian ash. The *Ornus* likewise affords it, but from the trunk and larger branches only, and that chiefly from artificial apertures; whereas it flows from the *Fraxinus* thro' every little cranny, and bursts thro' the large pores spontaneously.

What is got from different parts of the tree acquires different names; the trunks generally afford those large white pieces to which we give the name of flaky; but the finest of all is such as is collected from artificial incisions, in which little straws, &c. are purposely placed in such a manner, as that  
the

the flowing juice may concrete upon them, and form those long, white, cylindrical, perforated, pieces which are so much valued.

This juice is secreted in the largest quantity betwixt noon and evening. In the night it is condensed, if the season is dry, otherwise the *Manna* is spoiled: They scrape off the small with wooden knives, early in the morning, and gather the larger flakes; both which are afterwards dried upon clean paper in the sun, till they stick no longer to the fingers; and the different sorts are then carefully packed up for use and exportation.

V. Obser-

IV. *Observations on a Case published in the last Volume of the Medical Essays, &c. of recovering a Man dead in appearance, by distending the Lungs with Air. Printed at Edinburgh, 1744 \**.

THERE are some facts, which in themselves are of so great importance to mankind, or which may lead to such useful discoveries, that it would seem to be the duty of every one, under whose notice they fall, to render them as extensively public as it is possible.

The Case which gives rise to the following remarks, I apprehend, is of this nature. It is an account of “A man, dead in appearance, recovered by distending the lungs with air; by Mr. William Tossack, Surgeon in Alloa;” printed in Part II. p. 605. Vol. V. of the Medical Essays, published by a Society of Gentlemen at Edinburgh; an abstract of which will be sufficient in this

\* From the Philosophical Transactions, No. 475.

place : those who desire an ampler account may consult the article itself.

A person suffocated by the nauseous steam arising from coals set on fire in the pit, fell down as dead ; he lay in the pit “ between  
 “ half an hour and three quarters, and was  
 “ then dragged up ; his eyes staring and open,  
 “ his mouth gaping wide, his skin cold ; not  
 “ the least pulse in either heart or arteries,  
 “ and not the least breathing to be observed.”

In these circumstances, the Surgeon, who relates the affair, “ applied his mouth close  
 “ to the patient’s, and, by blowing strongly,  
 “ holding the nostrils at the same time, raised  
 “ his chest fully by his breath. The Surgeon  
 “ immediately felt six or seven very quick  
 “ beats of the heart ; the thorax continued  
 “ to play, and the pulse was soon after felt in  
 “ the arteries. He then opened a vein in his  
 “ arm ; which, after giving a small jet, sent  
 “ out the blood in drops only for a quarter of  
 “ an hour, and then he bled freely. In the  
 “ mean time, he caused him to be pulled,  
 “ pushed, and rubbed, as much as he could.

In

“ In one hour the patient began to come to  
 “ himself ; within four hours he walked  
 “ home ; and in as many days returned to  
 “ his work.”

There were many hundred people, some of them of distinction, present at the time.

This is the substance of the account ; from whence it naturally appears how much ought to be attributed to the sagacity of the Surgeon in the recovery of this person. Anatomists, it is true, have long known, that an artificial inflation of the lungs of a dead or dying animal will put the heart in motion, and continue it so for some time ; yet this is the first instance I remember to have met with, wherein the experiment was applied to the happy purpose of rescuing life from such imminent danger.

Bleeding has hitherto been almost the only refuge upon these occasions : if this did not succeed, the patient was given up. By bleeding, it was proposed to give vent to the stagnating



nating blood in the vein; in order to make way for that in the arteries *à tergo*, that the resistance of the heart being thus diminished, this muscle might again be put in motion.

But, in too many instances, we every day are informed, that this operation will not succeed, though the aperture is made with never so much skill : nor is it likely that it should, when the blood has lost considerably of its fluidity, the motion of the heart, and the contractile force of the solids, are at an end.

Chafing, rubbing, pulling, the application of stimulants, are too often as ineffectual as bleeding.

The method of distending the lungs of persons, dead in appearance, having been tried with such success in one instance, gives just reason to expect, that it may be useful to others.

It may be a proper enquiry, In what cases, and under what circumstances, there may be a prospect of applying it with success?

It will at once be granted, that when the juices are corrupted, where they are rendered unfit for circulation by diseases, where they are exhausted, or where the tone and texture of the solids is injured or destroyed, it would be extreme folly to think of any expedient to recover life.

But where the solids are whole, and their tone unimpaired by diseases, the juices not vitiated by any other cause than a short stagnation ; where there is the least remains of animal heat, it would seem wrong not to attempt so easy an experiment.

This description takes in a few diseases, but a greater number of accidents. Amongst the first are many of those which are called sudden deaths from some invisible cause ; apoplexies, fits of various kinds, as hysterics, syncope's, and many other disorders, wherein, without any obvious pre-indisposition, persons in a moment sink down and expire. In many of these cases it might be of use to apply this method ; yet without neglecting any of those other helps, which are usually called in upon these melancholy occasions.

It

It is not easy to enumerate all the various casualties, in which this method might be tried not without a prospect of success; some of them are the following:—Suffocations from the sulphureous damps of mines, coal-pits, &c. the condensed air of long unopened wells, or other subterraneous caverns; the noxious vapours arising from fermenting liquors received from a narrow vent; the steam of burning charcoal; sulphureous mineral acids; arsenical effluvia, &c.

Perhaps those, who, to appearance, are struck dead by lightning, or any violent agitation of the passions, as joy, fear, surprize, &c. might frequently be recovered by this simple process of strongly blowing into the lungs, and by that means once more communicating motion to the vital organs.

Malefactors executed at the gallows would afford opportunities of discovering how far this method might be successful in relieving such as may have unhappily become their own executioners, by hanging themselves. It might at least be tried, if, after the cri-

minals have hung, the usual time, inflating the lungs in the manner proposed, would not sometimes bring them to life. The only ill consequence that could accrue from a discovery of this kind would be easily obviated, by prolonging the present allotted time of suspension.

But this method would seem to promise very much in assisting those who have been suffocated in the water, under the above-mentioned circumstances ; at least, it appears necessary to recommend a trial of it, after the body has been discharged of the water admitted into it, by placing it in a proper position, the head downwards, \* prone, and, if it can be, across a barrel, hoghead, or some such like convex support, with the utmost expedition.

\* [Since the time at which this paper was originally published, the method of treatment in cases of this sort has been greatly improved, and the practice here recommended of placing the body across a barrel, or with the head hanging downwards, is now deservedly exploded, the rule being to keep it in as easy and natural a position as possible. EDITOR.]

It does not seem absurd, to compare the animal machine to a clock ; let the wheels whereof be in never so good order, the mechanism complete in every part, and wound up to the full pitch, yet, without some impulse communicated to the pendulum, the whole continues motionless.

Thus, in the accidents described, the solids are supposed to be whole and elastic, the juices in sufficient quantities, their qualities no otherwise vitiated than by a short stagnation, from the quiescence of that moving something which enables matter in animated bodies to overcome the resistance of the medium it acts in.

Inflating the lungs, and by this means communicating motion to the heart, like giving the first vibration to a pendulum, may possibly, in many cases, enable this something to resume the government of the fabric, and actuate its organs afresh, till another unavoidable necessity puts a stop to it entirely.



It has been suggested to me by some of my acquaintance, that a pair of bellows might possibly be applied with more advantage in these cases, than the blast of a man's mouth ; but if any person can be got to try the charitable experiment by blowing, it would seem preferable to the other. 1st. As the bellows may not be at hand. 2dly, As the lungs of one man may bear, without injury, as great a force as those of another man can exert ; which by the bellows cannot always be determined. 3dly, The warmth and moisture of the breath would be more likely to promote the circulation, than the chilling air forced out of a pair of bellows.

To conclude, as I apprehend the method above described may conduce to the saving a great many lives, as it is practicable by every one who happens to be present at the accident, without loss of time, without expence, with little trouble, and less skill ; and as it is, perhaps, the only expedient of which it can be justly said, that it may possibly do great good, but cannot do harm ; I thought it of so much consequence to the public, as  
to

to deserve to be recommended in this manner to your notice. For though it is already published in a work which is generally read by the Faculty ; yet, perhaps, it may be overlooked by some, forgot by others, and perhaps, after all the care that can be taken, it may never come to the knowledge of a tenth of those who ought not to be ignorant of it.

P. S. As the representation of an extraordinary fact may perhaps induce some to try the experiment, when occasions like those which are specified in the above remarks occur, it is hoped, that humanity will prompt all such to favour the Public with an account of their success, with the principal circumstances that attended. And as the writer of these remarks has embarked in the design of rendering this fact diffusively known, he would be glad to have it in his power to inform the Public, that numerous experiments confirm what this case suggests, viz. the possibility of saving a great many lives, without risking any thing.

V. *De Diaphragmate fisso, & mutatis quorundam Viscerum Sedibus, in Cadavere Puellæ decem Mensium observatis, Epistola* \*.

RICHARDO MEAD

JOANNES FOTHERGILL, S.

QUUM non ita pridem de casu quodam, ut mihi videbatur, omnino singulari, coram te verba facerem, ipse auctor eras, vir clarissime, ut integram rei historiam literis consignarem. Consilio igitur tuo morigerus opus aggressus sum; eoque lubentius, prout mihi persuasum est, id minus ingratum multis fore, si in publicum prodiret, quod tibi privatim non displicuisset. Tantum siquidem & merito ab omnibus tribuitur illius auctoritati, cui nihil antiquius, optatius nihil, quam bonis quibuscunque artibus, de civibus suis, de humano genere, optime mereri.

Quo autem clarius tota res pateat, ab ovo, uti dicitur, exordiri animus est, eorum omnium historiam exponens, quorum

\* From the Philosophical Transactions, No. 487.

testis eram, fide, simplicitate, quâ possim, maximâ.

Fœmina generosa 21 circiter annorum, tam ingenio acri & vivido quam forma spectabilis, habitus proceri & gracilis, temperiei ad sanguineam vergentis, firma satis, ut plurimum, sanitate felix, quinto post conceptionem circiter mense, primò prægnans abortum fecit.

Magno suo malo id ei contigit, dum in cognati villâ longe a suis diffitâ hospitio excipitur. Proxima, re jubente, obstetrix advocatur, quæ artis cum primis ignara, & duris tantummodo ruricularum ilibus assueta, uterum tenellulae eousque duriter tractavit, ut ex vasis laceratis immane adeo sanguinis profluvium exciverit, quantum ars sistere non valuit, usque demum donec gravissima superveniens *Leipopsychia* tam fluidorum motum, quam solidorum vim, impresentiarum sustulit.

Tandem vero revixit, atque ita convaleuit, ut ore ac membris in pallorem albescentibus, ostentui esset multum vitalis spiritus egestum.

Ex

Ex tantis autem malis vix, & ne vix quidem eluctata est, antequam de novo fit grvida. Miseram vero sortem, quâ per totum graviditatis decursum affligatur, referre piget; gravissima namque mala, quae uterum gerentes exercere solent, haec nostram & pessime exercuerunt.

Puellulam tamen & suo tempore enixa est, cujus ad historiam, rebus maternis feliciter compositis, quoad morbos, mortem, & cadaveris sectionem, pertinuerit, referendam me accingo.

Recens natae forma culpa omni carere videbatur: parvula erat & pusilla, cujusque cutis justo flaccidior, & aliquatenus rugosior, se suo nutrimento parcius potitam testabantur; quod nemini matris historiam pensitanti mirum videbitur.

Respiratio a principio ei erat justo paullulum frequentior, paucisque post diebus accedit, tanquam a correpto frigore, gravedo, cum ingenti laticis mucosi ex ore, & oculis, & naribus profluvio, quod quoties  
ulcera



ubera nutricis ducere coacta est, fere spiritum infanti praeclufit. Et hinc saepius lachrymae, hinc etiam irae, graviores quidem quam adeo tenerae aetati contingere solent, quaeque saepius praesentibus metum injece-  
runt, ne, cum furore brevi, simul & extremum halitum efflaret.

Commodis vero medicamentis, alvum praecipue leniter ducentibus, a gravedine utcunque liberari videbatur: viribus etiam cum mole pedetentim auctis, in spem adducti sunt parentes olim delicatulae sanitatem magis constantem fore.

Saepius tamen quam in plerisque aliis infantibus solet, ex improvise vomitio eam corripit: ejecta nec cibum crudum referunt, nec coctum, sed pulvem quasi purulentam, interdum acidum, saepe fetidum redolentem: dejectiones etiam justo frequentiores & ejusdem omnino indolis erant. Respiratio interim frequens, laboriosa, noctuque difficillima. Haec eo magis integrae salutis spem minuebant, quo minus auscultabant remediis, quae in hujusmodi malis plerumque opem ferre solent.

Septimo

Septimo tandem circiter mense, exanthemata quaedam sive tubercula per faciem imprimis, deinde per collum, humeros, thoracem & ad extremos, manuum digitos, disseminata sunt. Erant rotunda, pulicum instar morsûs lata, rubentia, duriuscula, pruritu molestissima, sensim in vesiculas parvas, fero tenui pellucido tandem repletas, elevata: quae in squamas furfureas tandem exsiccata, decidebant, relictis vestigiis livido-rubellis diu permanentibus.

Haec in conspectum venerunt paucorum post dierum febriculam; quum vero neque ortu, neque decessu justum aliquem typum servaverunt, pruriebant demum insensissime, & nova semper seges demessam subsecuta est, diuturnum fore malum existimabam, altiusque radices egisse, quam quae febre inordinata eruendae forent: quumque exanthematum prorumpentium vis atque pruritus indies augeretur, ab impuro aliquo hospite, vitium humoribus inferente, morbum incrementa capere putabam. Ad purgantia itaque mitissima, acidum aut acre obtundentia, eaque quae ad viscidum solvendum apta viderentur,

tur, confugi; & ne forte victus ratio, quam nutrici optime, minus tamen molli alumnulae competeret, utraque non nisi iusculis, carnibus tenerrimis, & id genus coctu facillimis alendas iussi. Hinc tuberculorum numerus, pruritus, caeteraque mala brevi diminuta fuerunt; atque dubia hucusque salus quodammodo stabilita.

Decimi vitae mensis initium attigerat, quum parentum jussu nutrix parvulam ablactare sategit. Hoc sine magna molestia tulit: die sexto, propter alvum paulo astrictiorem assuetum sibi solutivum haufit, unde bis deiecit, & bene se habuit.

Sub vesperam enormi vomitione corripitur, ex nulla quantum patuit causa oriunda; quae sine ulla fere intermissione misellam laceſſebat, donec tragoediâ per 24 horas circiter actâ, vitae brevis scenam clausit.

Cuncta, quibus usa est medicamenta, singulatim referre haud opus est. Tam notis plerisque, quam novis auxiliis, intus, foras, novo & pertinaci malo obviam itum est.

Prae

Prae aliis per totum vitae (nam et idem erat morbi terminus) decursum, profuerunt tinctura rhabarbari ex aqua cinamomi tenui parata, parca & saepius repetita dosi exhibita; & linctus ex oleo amygdalino, syrupo pectorali & sapone paucissimo confectus. In ipsis vero extremis angoribus ad vomitum sedandum adhibita sunt ea quae acidum aut acre temperare, obtundere solent; aromata grata, mitissima, anodyna, demum & ipsa soporifera, at frustra omnia: alvus interea nec sponte soluta est, neque ullis cessit irritamentis.

Atrocis morbi causas atque sedes rimari animus erat; quod, impetrata venia, postridie aggredior; priusquam vero ad dissectionem manus admoveo, praecipuorum symptomatum conspectum, quibuscum à carceribus ad metam usque colluctabatur, coram sistere haud forte absonum videbitur.

1. Pulsus nunquam non turbatus erat, parvulus, tremulus, frequentissimus.

2. Respiratio semper naturali crebrior, noctu quam interdiu difficilior.

3. Id

3. Id quoque observandum, quo laxior amictus, etiam interdiu, eo crebrior respiratio; quanto vestis arctior thoracem & abdomen cingens, tanto erat respiratio naturali similior.

4. Decumbenti etiam eadem actio difficilior; inde evenit, ut postquam primum carpsisset somnum, caetera noctis pars plerumque sedenti in gremio nutricis abiit.

5. Tussis, inquietudo, febricula, plus minus, dum ad sanitatem proxime accedere visa est, noctu aderant, & semper quam interdiu molestiores.

6. Vomitiones frequentes sine causa evidenti saepius eam fatigabant: egesta, cruda, & varia; nunc acida, nunc putrescentia, subpinguia, fetida.

7. Dejectiones sursum egestis simillimae.

8. Carnium quolibet modo praeparatarum odor vomitiones crudeles haud raro ciebat; tanto tamque infelici sensu praedita erat.

9. Quoties



9. Quoties alvus astrictior, toties major aderat ad vomendum proclivitas; at ventris fluxus quandoque, enormis & diuturnus plus damni intulit, quam vomitio.

10. Urinam insigni imbutam esse acrimonia docuit odor, spiritus instar urinosi pleurumque acris: linteamina colore flavo tingebantur.

11. Et cutis quandoque simili tinctura suffusa est.

12. Humor iste, qui pone aures infantum excerni solet, in nostra etiam maxime fetidus erat.

13. Ingenium ei erat mire, placidum, & malorum patiens: si quando autem accensa esset ira, mirum quantum excandesceret: pari tamen celeritate exstinguebatur, alioquin a suffocatione illico periisset.

Crederet, opinor, unusquisque rerum medicarum gnarus, ex historia jam tradita morbum esse insolitum; vim ventriculi imprimis labefactatam; turbatas secretiones; vitiatum sanguinem; pulmones male functos officio;

officio ; forte & hepar culpa non caruisse. Quis vero unquam conjecturis affecutus esset divisum fuisse septum transversum ; per ejus rimam in ipsa pectoris penetralia ventriculi amplam portionem & intestinorum partem insignem irrupisse ? Haec vero & plura docuit ipsa cadaveris dissectio, quam postero mane, comite H. Delanoy Pigot, chirurgo Wandsworthienfi perito, institui.

Corpusculum exsuccum, & mirum in modum unius Νοχθημέρας intervallo exinanitum lustramus. Quoad partium formam & magnitudinem omnia recte, nisi quod thorax naturali longior videretur & angustior : costae siquidem, minus quam solent obliquè positae, ad corporis axin rectiùs spectabant.

Ilia sinistra livor occupaverat, tanquam gangraena fuissent affecta : circa humeros & brachia haud paucae vesiculae cernebantur ; quarum aliae liquore rubello, aliae viridescenti, flavescenti aliae scatebant.

Divisam cutem, musculosque tenues sub-  
tus jacentes tunica cellularis omni omnino  
adipe vacua intercorrebat.

Ventre aperto, inferior omenti margo ne  
vel minima facta pinguedine, vixque ad um-  
bilicum protensa in conspectum venit. In-  
testinorum etiam tenuium portio, imusque  
ventriculi fundus; deinde hepar magnum  
palescens; sub cujus costa latebat vesica  
fellea, ampla, turgida, fundo sursum, cer-  
vice deorsum rectius quam in sanis solitum  
spectante. Haec forfice reclusa bilis spissae,  
nigricantis ferme sescunciam effudit: at  
quanquam ex plaga patula haud sine pres-  
sura; usque adeo crassa tenaxque erat. Vi-  
cina omnia summa flavedine tangebantur.  
Ileon intestinum hinc inde inflammari vide-  
batur: Colon suo loco abfuit: splen, renes,  
reliqua, sana.

Rescissis deinde cute musculisque, caute  
sternum ad jugulum usque dividimus. Ast  
diductis plagae marginibus, spectaculo, quan-  
tum novi, nunquam antea viso, percellimur.

In finistrum quippe pectoris antrum, magna ventriculi portio sese intruserat, tam pulmonum lobos, quam ipsum pericardium, & in eo cos, ex integro abscondens.

Diducto tandem ventriculo, quid subtus lateret inspecturi, ilei partem tres circiter palmas longam; caecum, ejusque appendicem, una cum coli portione haud parvâ, omnia uno eodemque tecta hospitio detegimus.

Rei novitate commotus, omnia rursus intueor; anceps ne forte vulnus inter secandum diaphragmati inflictum visceribus portam aperuisset. At inspectio quam maxime accurata dubium omnino sustulit; docuitque id olim fissum, divisum vel perruptum fuisse: nam septi hiantis margines perfecte occalluere; neque ullibi conspicienda erant plagae recentis indicia.

Quum itaque constabat nullam a nobis diaphragmati illatam fuisse vim, cuncta in locis quibus antea collocata erant studiose

reponimus, singulatim omnia et adhibita diligentia lustraturi.

Septum transversum ab osse sterni, et cartilaginibus antè diremptum, et ad centrum usque tendinosum, divisum, retractumque, arcum lunatum tensum formaverat; cuius cornua ad costarum fines cartilaginosos, dextro latere sterni propius, remotius sinistro, pertingebant: sicque sinus effectus est inaequalis, sinistro quàm dextro latere patentior.

Per hunc amplum finem, sublata viscera, in sinistro thoracis angulo, inter costas et cordis apicem tutas adeo adepta sunt latebras, ut neque proprio pondere, neque valida succussione, neque mutato, quacunque demum ratione, corporis situ, in pristinas sedes unquam deduci potuisse iudicabam: In *pristinas* dico, quoniam primitus antè partum sic sita fuisse haud temere credendum est. In ipso etenim partu malum accidisse, plurima sunt quae, ut ita credam, faciunt.

Saccus ille ventriculi, qui ingesta per oesophagum immediate accipit, multo quam  
solet



solet amplior, suum locum obtinebat; solito etiam pallidior et tenuior: reliqua pars sursum protrusa, deinde oblique retrorsum, supra septi arcum elevabatur; in ipso tamen transitu a margine septi angustatum notavimus.

Has tandem emensus fauces in amplum satis utriculum rursus excrevit; qui arcuato septo, tanquam scamno incumbens, omnem pectoris sinistri ambitum sibi vindicabat. Corculum interea, nam tale revera fuit, supra ipsam dorfi spinam detruferat; pulmonumque lobos ejusdem lateris eousque coartaverat, ut omnino sedibus pulsos, aut nullos fuisse, pene crediderimus.

Pylorus ex hoc utriculo juxta tertiam costam emergens, et sinuosâ flexura deorsum vergens, in duodenum abiit; quod, qua parte septi jugum in descensu transivit, et ipsum coangustari debuerat, quotiescunque ventriculus aut cibus aut flatibus intumuit. Quumque ita a naturali cursu devium aberrare ne-

cesse habuit, nil mirum si ductus communis biliarius, a recto intestini itinere tensus et fere connivens, suo semper munere fungi non poterat: hinc cutis, hinc urina quandoque discolores; et hinc sine bile dejectiones.

Tubi intestinalis anfractus presse sequentes iterum in thoracis antra ducimur: nam supra ipsum diaphragma, et pone ventriculum, portio ilei aliquot palmas longa convoluta delituit: exitum finemve quaerentibus in conspectum venit appendix vermiformis, et caecum fecibus distentum, amplum, incumbente ventriculi mole compressum, ejusque nifu extremo antri angulo adaptatum: denique annexa coli pars circiter dimidia, crebris et profundis sinubus notabilis.

Qua parte colon tensum septi limbum superabat, id tantum non abscissum invenimus; nam ventriculus saepius repletus, cedentis intestini latera contra membranae renitentis marginem obsistens, ea ita attriverat, seu premendo angustaverat, ut ne quidem

dem fecibus craffioribus trajiciendis aptum videbatur.

His demum attente perſpectis, caetera ejusdem cavi contenta exquirere ſategimus; et ſub firma tectos membrana, quam mediſtini parietem eſſe ſiniſtrum judicavimus, pulmonum lobulos detegimus, arctiſſime poſticae thoracis regioni undique non adhaerentes modo, at firmiter agnaſcentes dudum officio ſuo deſuiſſe videbantur. Plexus praeterea fibrarum validus, ex membrana cellulosa quaſi contextus, totam lobulorum compagem, pleuraeque ſuperficiem ſic intercedebat, ut nulla ratione ſeiſſos expandere valerent pulmones, ſi a tergo liberum movendi ſpatium permiſiſſent inteſtina et ventriculi portio.

Alterius deinde lateris cavum excutimus, et pertuſa membrana firma, quam pro altera mediſtini plica habuimus, pulmo dexter ſanus ſatis et integer ſeſe prodidit; quiſque proculdubio utriuſque munere diu perfunctus eſt.

Paulo infra pulmonis marginem inferiorem, supra diaphragma, faccus erat quasi ex membrana cellulari conflatus, qui, forfice apertus, binas circiter uncias liquoris flavo-viridantis, albuminis instar gelatinosi, loculamentis membranaceis contenti, profudit. Num ex hoc fonte profluxerat ista sanies, quae indomabilem tuberculorum vim, faciem, collum, caeterasque partes fedantem, enutriverat? Ita quidem verosimile videtur; nam liquidi in utrisque color idem erat.

Pericardium proxime referatur, quod et ipsum liquore simili scatebat: effluxit quippe ex apertura ad duas fere uncias humor descripto, modo paullulum tenuior magisque flavescent, simillimus.

Cor erat exiguum, tactui durum, et in bina aequalia quasi loculamenta discretum: hic enim auricula dextra sanguine distenta, vix cordi magnitudine cederet; ibi ventriculi cruore atro paucis crassissimo facti: inter utrosque vinculi partes agunt vasa coronaria, cordis basin arcte adstringentia.

Ex



Ex secta auricula cruor aterrimus, spissus, corio tenaci apertus exprimitur; ipsius facci latera ex venulis varicosis livescentibus tantum non constare videbantur.

Saepius inter secandum tam casu, quam dedita opera, majores venas pertudimus at nunquam alias, tam parum sanguinis effluxisse memini, isque erat crassus et niger, tanquam fero omni et diluente lymphâ orbatus.

Lustratis jam et sua sede visceribus, ventriculû eximere partemque intestinorum libitum est, ut quantum ad formam situmque mutata essent, exploratum haberem: dum vero manus operae admoveo, leniterque ventriculi fundum prehendo, ecce omnino putris, et ne tactus quidem levis patiens, pars ima intra digitos collabascit.

Nulla aderant inflammationis gangraenosae indicia: non rubor, non striae, nulla stigmata livescentia: omnis albore pallet, et sic tam nulla vi in tabem defluebat, ut potius acribus erosam, vel humidis laxatam fuisse compagem, quam gangraena corruptam judicarem.

Nec



Nec intuenti ventriculi situm hoc absolum videbitur. Heic enim ex imo visceris hujus fundo, ad summum pylori jugum, ascensus omnino acclivis: in nostra etiam sublata erat vis septi renitens, cujus ope in altum attolli unice valuerant ventriculi contenta: plus itaque laboris musculis ventris solis peragendum erat, quod quam in aliis peragitur, sociato diaphragmatis nixu. Ingesta proculdubio suam sequi indolem, favente mora et quiete debuerant; quibus conditionibus si addamus perpetuum humoris gastrici stillicidium in unum quasi ventriculi punctum, tam vomitus funesti ortum, quam putredinis causam perspectam habere possumus.

Hinc quoque manifestum erit, quare noctu quam interdiu procumbens quam erecta, laxa quam arcte vestita, pejus se habuit: et quantas anxietates, aegritudines, et molestias, pati oportuit, quoties situs horizontalis, habitusque parum strictus, ascensum facilem cibis in pectora praebuere? Cor ipsum mole praegravari necesse erat;   
luctam-

luctamque dubiam contra hostes irruentes solum sustinere.

Tradita hucusque rerum historia symptomatum explicationem promptam, ni fallor, reddidit, ideoque mihi supervacaneam: superest tantum modo, ut aliqua, quae in mentem mihi saepius morbum immedicabilem pensitanti venerunt, at paucissimis, referam.

1. Patet enim imprimis, animal posse vivere, vegere, laetari, et quodammodo valere, cui finditur vel disrumpitur diaphragma.

2. Ideoque minus huic metuendum, in pectore pertundendo, quoties empyema aut hydrops remedium anceps experiri suadeant.

3. Ita affectum esse diaphragma, (1.) si ampla hiansque plaga fuerit, forte dignoscendum, ex ipsa thoracis figura productione, minus obliquo costarum situ, et laesa simul respiratione.

4. In

4. In morbis infantum, quorum natura videatur reconditior, ex accurata partium externarum contemplatione, indagine, fortassis aliquid lucis elici queat: ideoque nequaquam praetermittendum.

5. Quotiescunque tubercula, pustulae exanthematâ, singularem aliquam corporis regionem occupant, ibi subtus, in vicinia, malum fomitem latere suspicandum.

Ita tandem casum, nulla arte sanabilem, et forte nimia diligentia exposui; id vero aegre te laturum haud quidem existimo: nollent enim nescire cordatiores in arte viri, quibus ex causis praematura mors superveniat, quotiescunque cadavera lustrandi copia conceditur: ipsos etenim medentes non solum rerum gnaros peritosque reddit, verum etiam tam orbatis dolorem minuit, quam dedecus aufert arti, palam perspectum habere, nullis remediis, nulla ope, ne quidem tua, supremam sortem potuisse protrahi.

Vale, vir candide, diuque felix orbi interfis, bonarum artium patronus, medicæque juventutis pater atque princeps.

VI. *An Account of some Observations and Experiments made in Siberia, extracted from the Preface to the Flora Sibirica, five Historia Plantarum Sibiriae, cum tabulis æri incisis. Auct. D. Gmelin. Chem. & Hist. Nat. Prof. Petropoli 1747. 4to. Vol. I.\**

BY direction of the late Empress of Russia several Members of the Royal Academy of Sciences at Petersburg undertook a journey into Siberia, in order to enquire into the natural history of that country, and to make such experiments and observations, as might tend to give a just idea of that almost unknown region, and to the improvement of physics in general.

Dr. John George Gmelin, Professor of Chemistry and Natural History at Petersburg, was sent at the head of this deputation, who, besides several of his colleagues, and some students, had a painter or two, a miner, huntsman, and proper attendants in his retinue.

\* From the Philosophical Transactions, No. 486:



He set out upon this expedition in August 1733, and returned to Petersburg in Feb. 1742, after having spent nine whole years in visiting almost every part of Siberia.

The fruits of this undertaking are designed to be communicated to the Public ; and one volume of the History of Plants has already appeared, under the title of *Flora Sibirica, sive Historia Plantarum Sibiriae, Tom. I. continens Tabulas Æri incisas L. Auctore D. Joh. Geo. Gmelin, Chem. et Hist. Natur. Prof. Petropoli Typis Academiae Regiæ Scientiarum* 1747. This is intended to be followed by several others, containing not only a description of the plants, their *locus natalis*, &c. but their uses among the inhabitants, so far as the Professor could get information concerning them.

In a large Preface to this first volume, the ingenious and indefatigable Author has given us a concise account of Siberia in general, its rivers, lakes, mountains, mines, the nature of the soil, fertility, &c. with several judicious experiments and remarks on the altitude of the earth



earth above the level of the sea ; but especially on the qualities of the air in that climate ; an abstract whereof, at first drawn up for private entertainment, was thought not unworthy of more public notice, and is therefore addressed to the Royal Society.

The country, whose natural history Dr. Gmelin has collected, is of vast extent. It is bounded by a chain of mountains called the Werchoturian and Vralian on the west ; by the sea of Kamtschatka on the east ; and comprehends all those countries that lie betwixt the *Mare Glaciale*, and the borders of the Kalmucks and Mongales, to the very confines of China.

The rivers which water this tract are numerous ; some of them large, and even receiving streams in their course, which in other countries would be looked upon as capitals themselves. The space they measure is no less considerable. The Jaïk is the first river of note on the western side. It rises under the latitude of 54, of longitude 78, and runs into the Caspian in 47 of latitude, and

144 ACCOUNT OF SOME OBSERVATIONS AND  
and 74 of longitude. The Irtisch rises in  
the country of the Kalmucks, latitude  $46\frac{1}{2}$ ,  
longitude 103; and empties itself into the  
Oby, lat. 61, long. 86. The Oby rises un-  
der 52 lat.  $103\frac{1}{2}$  long. and loses itself in the  
*Mare Glaciale*, lat. 67, long. 86, after run-  
ning a course of near 800 leagues, and receiv-  
ing a great number of rivers of considerable  
note. The Jenisea is not much less than  
the Oby. The Selenga takes its rise under  
lat. 48, long. 114, runs into the lake Baical,  
in  $51^{\circ} 20''$  latitude, with many others equally  
considerable, which it would be tedious to  
mention.

The water of these rivers is for the most  
part fresh, clear, and salubrious. In some  
it is a little brackish, by the mixture of cur-  
rents from salt lakes and springs, which  
abound in many places. They contain fish  
of various kinds in great plenty, and mostly  
of an excellent flavour.

The lake Baical may deserve some mention  
to be made of it, being one of the greatest  
fresh-water lakes yet discovered. It ex-

tends, according to our author, from the one hundred and first degree of longitude, to the one hundred and twenty-seventh, being upwards of 500 leagues in length, and is from twenty-five to eighty leagues in breadth. It is every where deep and navigable ; the water is extremely clear ; it abounds with great plenty of fine fish. It receives a great number of rivers ; but the Angara alone runs out of it : which joining the Tungusca, loses its name ; as this likewise does, when it runs into the Jenisea.

Salt lakes are common in many parts of Sibiria : some contain a pure white salt, well tasted, and fit for use ; which, in summer, is crystallised by the heat of the sun alone, and forms a crust on the top of the lake. In some this grows so heavy, as to break and fall to the bottom. Besides this kind of pure common salt, which is fit for use, there is another sort of a bitter taste, much resembling the *sal mirabile*, found in several lakes in this country. Springs of salt water are sometimes observed to rise in the midst of fresh water. Our author assures us, that

L

he

he has seen several such ; one especially he observed rising through a stone, in the bed of the river Angara.

Before we dismiss the salt lakes, we may just mention, that on the banks of the river Kaptendei, where it runs into the Wilvius, are a great number of salt springs, which afford excellent salt ; and that, about thirty leagues above this place, along the same Kaptendei, on the right hand, is a hill about 30 fathom high, and 210 long, consisting entirely of *sal gem*.

There are some lakes, which, our author informs us, in the memory of man, contained only fresh water, but now are very salt. One of this kind, about forty years ago, abounded with fresh-water fish, but is now become salt, smelling strong of sulphur, with a bitter taste, and all the fish are killed.

The inhabitants assured our author, that some fresh-water lakes have been by degrees dried up, and that others have appeared where formerly it was dry ground ; and that



even some of these new-formed lakes, which at first had no fish in them, are now very plentifully stocked. They have not recourse to subterranean caverns or passages for a solution of this phænomenon; but assert, that ducks, sea-mews, &c. that live upon fish, carry the eggs from one lake to another.

In the description which our author gives us of the course of rivers, situation of lakes, &c. he takes notice of the soil, its barrenness, fertility, &c. These are different, as it may be supposed, in the different parts of such an extensive climate under such latitudes. About the lake Baical is the most fruitful tract, and thence is called the granary of that part of Sibiria. They grow some little corn about the latitude of 61. They have made of late trials still further; but the success was not known.

In his passage through Sibiria, he tells us, that he could scarce think himself in Asia, till he got over the river Jenisea; till then, he saw no animals, but such as are common in Europe, at least may be seen in the plains



washed by the lower part of the Volga. The plants and stones were of the same kind, and the face of the country in general, like other parts of Northern Europe. But from the Jenisea, both to the east, north, and west, the climate seemed to be wholly different, and as if enlivened with new vigour. It is mountainous; but these mountains are intermixed with rich delightful valleys and fruitful plains. The animal that affords the musk, and the *musimon* of the ancients, were now to be met with. Many of the most common European plants by degrees disappeared, and others became frequent, which are strangers in Europe. The purity, clearness, and salubrity of the waters, the exquisite taste of the fish and fowl, but more especially the different genius and way of life of the inhabitants, plainly proved they were got into another climate. This remark our author submits to the consideration of Geographers.

Amongst the curiosities of Sibiria the Professor mentions a place remarkable for its excessive coldness in the midst of summer.

It

It is in the province of Jacutski, about the middle way to Ochotz along the river Jucanan; it is called by the Russians Springing Ice, by the natives the Icy Lake. Three other such places occur within the circuit of eighty leagues.

The provinces beyond the lake Baical are mountainous, with high and wide-extended plains lying betwixt them, which in many places are only covered with barren sand; so that in some places one may travel thro' such deserts one, two, or three days together, without finding wood enough to make a fire, or any other water than that of salt springs, which are very frequent; and being dried up by the summer heats leave a saline crust, very much resembling *Natron*, being of an alkaline nature, with a sulphureous smell.

The country that borders on the rivers Uruncan and Gafimur is extremely rich and fruitful. The face of the country is delightful, and its produce to the husbandman almost exceeding his hopes: but what renders

it still more surprising is, that a country, whose soil yields to few in fertility, and the beauty of its bloom, should yet cover immense riches in its bosom. Here are mines of gold and silver, which have long been worked to advantage: the veins are rich, and lie shallow; yet communicate no poisonous effluvia to the vegetables that cover them: nor do those distinguishing marks of sterility appear here, which in most other mining countries are so observable.

The highest part of Sibiria is towards the springs of the rivers Argun, Schilca, &c. about the 49th deg. of lat. 130th longit. This part is destitute of marble and limestone, which are almost every where to be met with in the lower tracts both of Sibiria and Russia: no petrifications are to be found here, either of the testaceous or crustaceous animals: and the veins of ore are always found near the surface, never entering deep into the earth. Besides the mines of gold and silver above-mentioned, copper and iron are found in several places; likewise the *Glacies Mariæ* or Muscovy Glass is dug  
near

near the river Mama. Loadstones are also got in Sibiria; and in several of the rivers beautiful transparent pebbles and crystals occur.

I shall only add, that there are some natural warm baths in several parts of Sibiria, and some of them of a most agreeable temperature; and proceed to the account of our Author's observations and experiments on the height of the earth, &c.

Pauda is allowed to be the highest of all that ridge of mountains called Werkoturian. Our Author endeavoured to take the height of it by means of the barometer,

On the 11th of December 1742, at our Author's lodgings at the foot of Pauda, the mercury in the barometer, in a cold place, but within doors, stood at  $26\frac{83}{100}$  Paris measure. He then carried it up the mountain as high as he could go, which was about one-third of the whole height, where he hung up the barometer on a tree, from 9 to 11 in the forenoon, making a good



152 ACCOUNT OF SOME OBSERVATIONS AND  
fire pretty near it, left the intense cold, which sunk the quicksilver in De Lisle's thermometer to 201, should affect the barometer, and lead him to ascribe that to gravity, which was only owing to the contraction of cold.

Under these circumstances the quicksilver sunk to  $25\frac{3}{100}$ .

Hence, according to M. Cassini's calculation, our Author's first station will be 941 feet higher than the level of the sea: the second on Pauda 1505 f. and the whole height of this mountain 4515, or 752 Paris toises; which added to 941 feet, the height of his lodgings at the foot of Pauda, makes 5456 feet, or 909 toises, the height of Pauda's top above the sea; supposing the level of the sea to be 28 inches, as the Paris Academicians have fixed it: tho' this differs from observations made on the barometer at the sea-coast of Kamtschatka at Bolchereetz; where, from experiments made above two years, the mean height of the mercury was 27 inches,  $6\frac{1}{2}$  lines. And at Ochotz, during



during a year's observations, the mean height was found to be 27 inches and about  $8\frac{1}{2}$  lines.

Hence it would appear, that the sea of Kamtschatka is higher, with respect to the earth's center, than the ocean and Mediterranean ; and at Bolcheretz higher than at Ochotski.

The following list of barometrical observations, made in various parts of Sibiria, will shew the different heights of the different tracts in it,

	Feet	Toises	Inches
The mean height of the barometer, from a year and 10 months observations at Irkutsk, was	_____	_____	26 $\frac{35}{100}$
Its height above the sea will then be	1355	or 226	_____
At Selengia, 1 month's observations	_____	_____	25 $\frac{95}{100}$
Its height above the sea	1779	or 296	_____
At Kiachta, a town on the confines of China 12 days observations in April and May, mean height	_____	_____	25 $\frac{35}{100}$
Its height	2400	or 400 *	_____
At Neretschia, from 20 days observations in June	_____	_____	25 $\frac{99}{100}$
The height above the sea	1738	or 298	_____
At the silver mines at Argun 9 days in July	_____	_____	25 $\frac{62}{100}$
The height above the sea	2121	or 353 $\frac{1}{2}$	_____

\* In the copy before me appears to be a great mistake, either of the printer, or in the manuscript ; it being put down in words at length, *bis mille quadringentarum Orgyarum cum dimidia* ; which is impossible ; and the number of feet is not exact, according to other calculations.

Our author adds several judicious reflections upon the time and manner of making these observations, in order to determine any thing with certainty, which he has endeavoured to keep strictly to in these experiments; and concludes, that the plains in some parts beyond the lake Baical, are almost as high as the tops of high mountains in some other countries; Mount Massane, according to the French Geometricians, being but about 408 toises high, which differs but little from the plain country at Kiachta; which yet has considerable mountains rising in its neighbourhood.

From whence our author concludes, that the elevation of the earth, in this tract, above the level of the sea, is very great, compared with the west part of Sibiria and Europe \*.

\* M. De la Condamine, in his voyage through the inland part of South America, makes Quito to be between 14 and 1500 toises above the level of the sea. Suppose — 1450  
He tells us, that Pichincha is 750 higher 750

This makes in the whole — — 2200 toif.  
above the level of the sea.

P. Martel, engineer, in his account of the Glacieres in Savoy, printed at London 1742, tells us, that the barometer at Geneva, by the side of the Rhone, stood at  $27\frac{1}{2}$  I. which is

The air of Siberia, with respect to its gravity, is, as in other countries, the nearer the sea the heavier; and the more remote, the lighter: so that at Kiachta, scarce one person in our author's retinue escaped without some indisposition. They were seized after their arrival, some with acute fevers, others complained of extreme lassitude and dejection. It was in the spring season, the weather moderate, their manner of living regular, nor had they been much fatigued with their journey; in short, they could attribute it to no other cause than the lightness of the air.

In these provinces, viz. beyond the lake Baical, our author tells us, that intermittents are seldom heard of, and ophthalmies are endemic; but that, in the fenny tracts which lie near the Oby and Janisea, intermitting fevers are very frequent.

656 feet above the level of the sea, according to Scheuchzer; and that the highest point of Mont Blanc, measured partly by the barometer, and where inaccessible from the snow that covers it, by trigonometrical operations, is 12459 feet, or somewhat more than 2076 toises above the level of the Rhone; which, added to the height of this above the sea, makes 13115 French feet, or about two English miles and two-thirds.

The

The coldness of the air of Siberia is of all others the most remarkable quality. In some places it snows frequently in September, and not seldom in May. In Jacutsk, if the corn is not ready to cut in August, which often is the case, the snow sometimes prevents it, and buries the harvest all together. At Jacutsk, the Professor ordered a hole to be dug in the earth, in a high open place, on the 18th of June; the mold was 11 inches deep; below that was sand about  $2\frac{1}{2}$  feet; it then began to feel hard, and in half a foot more it was froze as hard as possible. In a lower place, at no great distance from this, he ordered another hole to be dug: the soil was 10 inches; soft sand 2 feet 4 inches; below this, all was congealed; so that the earth is scarcely thawed even in summer above four feet deep.

Our author inclines to the received opinion, that the eastern climates under the same latitude are colder than the western; and thinks this is confirmed by experiments made in different parts of Siberia.

The



The mercury in De Lisle's thermometer often sunk in winter in very southern parts of this country, as near Selinga, to near 226, which is equal to  $55\frac{1}{2}$  below 0 in Fahrenheit's thermometer. But the cold is often much more intense than this, as appears by the following experiments, made at Kirenginski.

Feb. 10. 1738. at 8 in the morning the Mercury stood at 240 degrees in De Lisle; which is 72 below 0. in Fahrenheit's.

On the 20th, it sunk one degree.

At the same place in 1736.

Dec. 11. at 3 in the afternoon 254 in Delisle.  
Almost 90 below 0. in Fahrenheit.

Dec. 20. 4 o'clock p. m. 263 in Delisle.  
 $99\frac{4}{5}$  below 0. in Fahrenheit.

D. F.

Nov. 27. 12 at noon  $270 = 107\frac{7}{10}$  below 0.

Jan. 9.  $275 = 113\frac{5}{8}$

1735. Jan. 5. 5 in the morn. 260

6 ——— 280 = 120

8 ——— 250 and rose by degrees till 11 at night, when it stood at 252.

Such an excess of cold could scarcely have been supposed to exist, had not experiments, made with the greatest exactness, demonstrated the reality of it.

During this extreme frost at Jenisea, the magpies and sparrows dropped down as they flew, and to all appearance dead; though they



they most recovered when brought into a warm room. This was quite new to the inhabitants of that country ; though it frequently happens in Germany in much less intense cold, when the weather sets in at once very severe.

The air, says our author, was at that time extremely unpleasant ; it seemed as if itself was froze, being dark and hazy ; and it was scarce possible even to bear the cold in the door-way for three or four minutes.

These experiments, our author assures us, were made with all possible exactness, and agree with many others, made in different parts of Siberia by his direction ; and from these we may conclude, that the cold in Siberia is more intense than it has yet been found to be in any other part of the world.

It was not apprehended that a greater degree of cold existed any where, than that artificial one produced by Boerhaave, by means of concentrated spirit of nitre, which sunk the Mercury 40 degrees below 0. in Fahrenheit's ;

heit's; which was supposed to be the point beyond which no animal could bear it.

But the utmost limits of cold are yet unknown; or to what degree an animal can subsist in it, when inured to it by little and little. The history of heat is alike imperfect. The celebrated Professor above-mentioned was induced to think, that a man could not bear, without the utmost danger, a greater heat than that which would raise the Mercury to 90 in Fahrenheit's; but an ingenious and accurate correspondent of our author's at Astrachan informs him, that it not only rises there to this degree frequently, but even to 100, and he has seen it  $103\frac{1}{2}$ . Even in the bagnios in Russia, the heat is often equal to 100: it sometimes makes the quicksilver ascend to 108, 110, and to 116, as may be tried every day; and yet people not only bear them with impunity a few minutes, but often stay half an hour or an hour.

One necessary observation our author makes, which is, that the ball or tube containing the mercury ought to be as dry as possible on the outside, during these or any other

other trials with the thermometer: for the adhering moisture, by forming a cooler atmosphere round it, has sometimes occasioned a difference of ten degrees.

These are some principal facts given us by our author in his preface, relative to the natural history of Sibiria in general: what follows chiefly regards the work it is prefixed to.

As a just idea of this part cannot be exhibited in a narrow compass, the curious in this branch of science must be referred to the book itself.

I have only to acknowledge with gratitude the instruction and entertainment I have received from this elaborate work: it is a tribute justly due to the learned and ingenious author, in return for the pains he has taken, and the fatigue he has endured in this inhospitable region; and to entreat your indulgence, if I have flattered myself too much, in apprehending this excerpt might afford you some amusement.

VII:

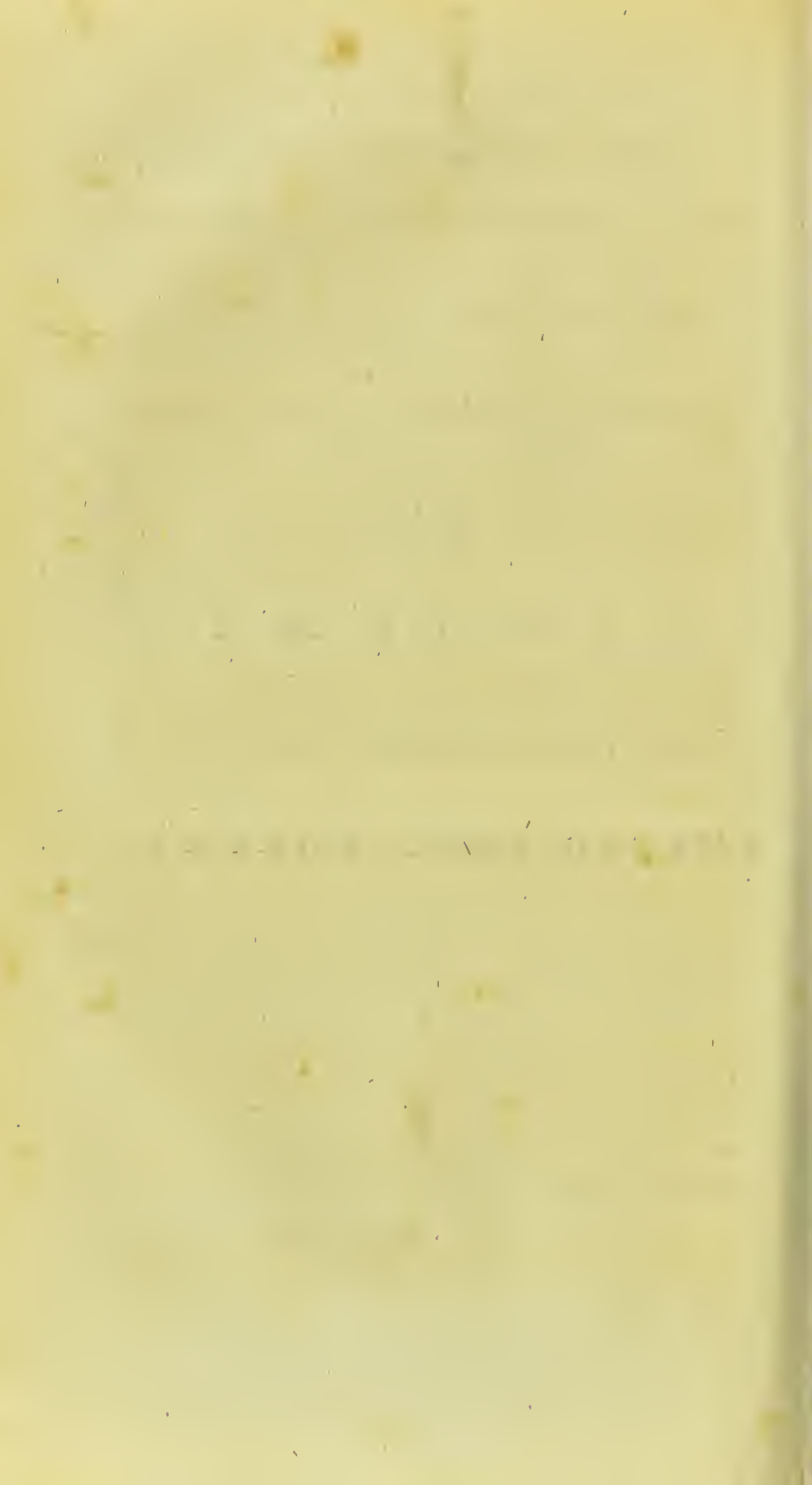
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P U T R I D S O R E T H R O A T .

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## P R E F A C E \*.

**W**HEN the following Treatise was first published in the year 1748, the disease which is the subject of it was not generally known in England, though it had spread like a plague through many of the southern parts of Europe about a century before, and had carried off great numbers of people; of children especially.

From the time of its first appearing in this Nation, it has visited many parts of the Kingdom, with different degrees of violence, as different causes contributed to render it more or less malignant.

It is probable that this kind of Sore Throat may continue amongst us for the future, breaking out with more or less severity, as seasons, situations, and other circumstances, may concur. And,

Though its aspect has sometimes varied, according to the epidemic constitution, yet upon the whole it has seldom, in any place that I have heard of, deviated so far from the following description, as to leave it doubtful under what species of disease it ought to be ranked.

\* This Preface was prefixed only to the fifth and sixth editions of the work, the preceding editions having been published without any. E.

## P R E F A C E.

Warranted by the authority of those Physicians who had early and extensive opportunities of observing this distemper in Italy, Spain, and other Countries, at its first breaking out in Europe, as well as by the experience of some Physicians at home, the late very eminent and learned Dr. Letherland particularly, instead of treating it as an inflammatory disease, which a Sore Throat was generally deemed to be in this country, a warmer regimen was proposed, and such as is most commonly pursued in putrid fevers, and disorders allied to them.

This method has for the most part succeeded very happily; and it now seems to be the concurrent opinion of the most experienced in the faculty, that a generous and cordial regimen is in this species of Sore Throat the most salutary.

Amongst all the symptoms which attend this disease, there is none more formidable than perpetual watchfulness, with a delirium. These symptoms most commonly affect the adults, and especially the sanguine and plethoric.

The throat, in these circumstances, is seldom much ulcerated; this part is the least of their complaints: the patients are hot, restless, and, though delirious, are sensible for a moment, and answer questions put to them, not improperly. The skin is covered with a deep erysipelatous redness, and always dry, as they are continually moving about. The pulse is quick, small, and hard; the urine various, often turbid, yet sometimes clear and flame-coloured.

## P R E F A C E.

In such cases bleeding seems not only allowable, but necessary, especially by cupping from the back of the head, or by leeches from the temples; from the arm perhaps it might occasion too great faintness; and a retreat of that eruption, which though no critical discharge, but rather a symptom of malignity, ought not to be repressed.

After bleeding, the Bark, conjoined with Alexipharmacs, as the simple or compound powder of *Contrayerva*, *Confectio Cardiaca*, or the like, may be exhibited, in quantity and frequency proportioned to the age and symptoms.

The use of the Bark in the cure of this disease was unknown to the early practitioners. It is but of late that this celebrated medicine has been used with freedom in this as well as in other putrid diseases, and with great advantage.

The difficulty of prevailing upon children afflicted with this distemper to take any kind of medicine, put me early on trying the Bark in clysters, and sometimes when there seemed very little chance of relieving them by any means. To very young children, two or three drachms of the Bark, in fine powder, have been given every six hours, in three or four ounces of broth, as a clyster, adding a small quantity of the *Elect. à Scordio* to the second or third, if the first was discharged too speedily; and this has saved many, when not a drop of any medicine, and scarcely any kind of nourishment, could be swallowed.

Adults may take half a drachm of the powder in an ounce and a half of the decoction, warmed with any grateful com-

## P R E F A C E.

pound water, every two or three hours; taking particular care to prevent any considerable tendency to a diarræa, from the use of the medicine.

Free, but not cold air, plenty of liquid nutriment and generous, with constant attention to keep the patients clean, their mouths and throats often washed, and their linen changed, contribute greatly to the cure of this disease. While their skin is covered with that deep efflorescence, if they are at all sensible, they often complain of the least admission of cold air, and very frequently of much sickness and oppression, if this efflorescence speedily disappears.

To favour this eruption, it will always be proper to put those who are seized with this distemper to bed as early after seizure as possible, and to give the mild and cordial diaphoretics. And as a preservative, I have often recommended the Bark to be given both in decoction and substance, with the addition of such a quantity of the volatile tincture of *Guaiacum*, as may render it gently purgative.

Though the Faculty and the Public are now sufficiently convinced of the existence of this distemper, and it may seem therefore needless to continue so many testimonies of it; yet as this recapitulation may serve as an index to some of the most approved Authors on the subject, it may not be without its use to inquisitive practitioners; and others may easily pass it over to a part in which they are more immediately interested, viz. the knowledge and cure of this disease, as it has appeared, and still continues to appear, in many parts of this Nation.

J. F.

Nov. 25, 1759.

## P A R T I.

*Of the SORE THROAT attended with  
ULCERS;*

As it appeared in SPAIN, ITALY, SICILY, &c.

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THE disease which is called by the Spaniards *Garrotillo*\*; by the Italians, and other nations, *Morbus strangulatorius*, *Pestilens Faucium Affectus*, *Epidemica Gutturis Lues*, and by divers other appellations †; is said to have appeared first in Spain about the

\* Ab Hispanis Garrotillo appellatur, ut eadem patiantur Angina laborantes, quae facinorosi homines, cum injecto circa collum fune strangulantur. Epist. R. Moreau ad Th. Barth. Epist. Med. Cent. i. p. 336.

† Affectus suffocatorius, Carbunculus anginosus, Phlegmone anginosa, Angina pestilentialis, Morbus Gulae, Morbus Puero-  
rum, Pestilens ac praefocans pueros abscessus, Tonsillae pestilentes, *Ανχόνη λοιμώδης*, Aphae malignae, Passio anginosa, Laqueus gutturis, &c. Vide Cortes. Miscel. Med. p. 666. Severin. & Epist. Ren. Moreau ad Th. Barthol. de Laryngotomia.



year 1610 ; to have spread from thence to Malta, Sicily, Otranto, Apulia, Calabria, and the Campagnia, in the space of a few years ; and to have broke out at Naples in 1618, where it continued upwards of 20 years ravaging the different parts of that kingdom \*.

It is not certainly known how much longer it remained in these countries, or to what others it was communicated at that time, its declension being as obscure as the causes it sprung from. That it wholly disappeared in these parts, soon after the time above-mentioned, seems probable, from the silence of those physicians, who have published their observations made in the places, which had so severely felt the effects of this distemper.

Several writers, as Wierus †, Forrestus ‡, Ramazzini §, and others, take notice of epi-

\* Severin. de recondita abscessum natur. p. 446.

† Joh. Wieri Observat. lib. vi. de Angina pestilenti epidemica, Oper. p. 910.

‡ Pet. Forrest. Observat. lib. vi. de Febribus publice grafsantibus, p. m. 150.

§ Bern. Ramazzini Constitutiones Epidem. Oper. p. 195, & seq.

demical affections of the throat, in some respects resembling the disease here described; but a little attention to the symptoms of each will, I think, discover an essential difference between them. The same, I think, may be said of the sore throat and the scarlet fever, which shewed itself at Edinburgh in 1733 \*.

Tournefort, in his voyage to the Levant †, seems to have met with this disease in the islands of the Archipelago; at least so far as one can judge from the imperfect description we have of it. His account is as follows :

“ When we were in this island (Milo)  
 “ there raged a terrible distemper, not un-  
 “ common in the Levant: it carries off  
 “ children in twice 24 hours: it is a car-  
 “ buncle or plague-sore in the bottom of the  
 “ throat, attended with a violent fever.  
 “ This malady, which may be called the  
 “ child’s plague, is epidemical, tho’ it spares  
 “ adult people. The best way to check the

\* Medical Essays, vol. 3. p. 26.

† Tournefort’s Voyage to the Levant, vol. 1. p. 133.

“ pro-

“ progress of it, is to vomit the child the  
 “ moment he is perceived to grow heavy-  
 “ headed. This remedy must be repeated,  
 “ according as there is occasion, in order to  
 “ evacuate a sort of *aqua fortis* that dis-  
 “ charges itself on the throat. It is neces-  
 “ sary to support the circulation of the  
 “ juices, and the strength of the patient,  
 “ with spirituous things ; such as the *The-*  
 “ *riaca, Spir. vol. oleos. aromat.* and the like.  
 “ The solution of liquid styrax in brandy is  
 “ an excellent gargarism upon this occasion.  
 “ Tho’ it is a case that requires the greatest  
 “ dispatch, the Levantines are seldom much  
 “ in haste in the cure of any disease.”

This account does not disagree in general  
 with that which has been left us of the *mor-*  
*bus strangulatorius* ; only he is singular in  
 asserting it to arise from a kind of *aqua fortis*  
 discharged upon the parts ; but his favourite  
 study had engrossed his attention, and to this  
 we must impute both the present mistake,  
 and his want of accuracy and precision too  
 frequently, when he treats upon medical  
 subjects.

When

When it first broke out in the countries above-mentioned, it soon engaged the physicians of those times, as well to observe its nature, effects, and whatever might contribute to its cure, as to vindicate their respective systems and opinions ; and out of such of the tracts then published as I have had an opportunity of perusing, the following account of it, as it appeared at that time, has been collected.

Ludovicus Mercatus, physician to Philip II. and III. Kings of Spain, among his Consultations, published in tome V. of his works \*, has one upon this disease †. He mentions it as a calamity which had but newly appeared, and at that time affected several provinces and cities of that kingdom. He has related only one case ; but in commenting upon it, according to the method of writing on diseases then in use, he takes notice of several circumstances relative to it, and makes

\* D. Ludovici Mercati, medici a cubiculo Philippi III. Hispaniarum—Regis, &c. Oper. Tom. 5. Francof. 1614.

† De Faucium et Gutturis anginosi et lethalibus Ulceribus. ] Consultatio xxiv. p. 137.



some observations respecting the cure, which, tho' they seem to have been neglected, by many who succeeded him, experience hath since shewn to be just ; some of these will be pointed out in their proper places : and, considering that he wrote very soon after the distemper broke out, the approbation prefixed to this part of his work being dated in 1612, they are a proof of his attention and sagacity.

Johannes Andreas Sgambatus, a physician of Naples, published a treatise upon this subject in 1620 \*. He gives us a methodical and pretty exact history of the symptoms, and method of cure both general and topical, together with a summary view of the disputes, which were at that time managed with sufficient heat and acrimony, in relation to its name, cause, and nature ; about which they were as much divided as they were about the method of cure ; each party

\* *De pestilente faucium affectu Neapoli saeviente, opusculum, auctore Jo. Andrea Sgambato, philosopho ac medico Neapolitano, et academico otioso. Neapoli excudebat Tarquinus Longus, 1620, in 4to.*



appealing to Hippocrates, Galen, Avicenna, &c. for the support of their opinions concerning a disease, which it is not certain that those whom they appeal to ever saw.

Johannes Baptista Cortesius, in his *Miscellanea Medica* \*, takes notice of this disease, and describes its principal symptoms, in a letter to Jo. Anton. Anguilloni, physician in chief to the Maltese galleys. He considers it indeed as a different distemper from that which infested Naples, and other parts of Italy; tho', from his own account of it, there appears little reason to question its being the same. He seems to have been led into this mistake, by considering the disease he treats of, as contagious only in a certain limited sense, whilst the Italians, as some of the Spaniards had also done, declared theirs to be pestilential and contagious without restriction. He allows, that the breath of a person affected might convey the contagious effluvia to another near at hand; and gives

\* Joannis Baptistae Cortesii, medici ac philosophi, in Messanenſi academia praxim ordinariam e prima ſede interpretantis, Miscellaneorum Medicinalium Decades Denae. Messanae 1625, in fol.

an instance of one who got the disease, and died of it, by trying, at his friend's request, who then laboured under this disease, if his breath was affected \* ; for from this circumstance they guessed at the degree of danger attending the sick.

In 1636, Ætius Cletus, of Signia in Italy, published his treatise *De Morbo strangulatorio* †. He mentions some facts relating to it, that had escaped Sgambatus and Cortesius, which will be taken notice of hereafter.

\* Divi Francisci Custos, vir doctrina et moribus insignis, hac luc obsessus, tonsillas solummodo et gargareonem inflammatione laesa habebat, et continuo querebatur se percipere in ore foetorem quendam ; et ut hac de re certior redderetur, ad se vocavit baccalaureum quendam sibi amicissimum, qui maximo affectu assistebat, rogavitque ut vellet olfacere, percipereque naribus, an verum esset talem foetorem emittere, an ab ejus imaginatione prodiret : olfecit baccalaureus, me (scil. Cortesio) praesente, et multis aliis : at statim non multis elapsis horis decubuit sola faucium et glandularum inflammatione vexatus, absque aliqua manifesta corruptione partium, omnibusque praesidiis ex arte factis, quarto die suffocatus periit ; et tamen Custodem non tetigerat, sed solo olfactu aerem ab ore prodeuntem naribus traxerat : quare ab hujusmodi exemplo veni in sententiam hunc morbum non esse absque aliqua contagione. Cort. Miscel. p. 698.

† De morbo strangulatorio, opus Ætii Cleti Signini, doctoris medici et philosophi. Romae 1636, 8vo.

Marcus

Marcus Aurelius Severinus, Professor of Anatomy and Surgery, and physician to the Hospital of Incurables at Naples, wrote a dissertation upon this disease, under the title of *Paedanchone Loimodes, seu de pestilente ac prae-focante Pueros Abscessu*; and annexed it to the second edition of his book *De recondita Abscessuum Natura*, which was printed in 1643 \*. From a person of his capacity, and furnished with the best opportunities of seeing the disease in every stage and condition, we might reasonably have expected such observations as would enable one to form a just idea of this distemper; but we meet with little of this kind in his performance. He has indeed mentioned some circumstances relating to its history, not taken notice of by the other writers I have seen, and his method of cure is different from the rest; but he refers us to others for an account of the symptoms, and contents himself with reciting and

† De recondita abscessuum natura, libri 8. Marci Aurelij Severini Tharsiensis, philosophi et medici, regio in gymnasio Neapolitano anatomes et chirurgiae professoris. Editio secunda, Francofurti ad Maenam 1643. And again printed with Bartholine's Exercitationes, as a commentary upon it, and Villani's Therapeuta Neapolitanus, seu Veni mecum Consultor. Neapoli 1653.

commenting upon Aretacus's description of the *Ulcera Syriaca*, which he takes for granted to have been the same with the disease at that time infesting Naples; tho' very probably without sufficient reason.

Petrus Michael de Heredia, physician to Philip IV. King of Spain, in his *Disputationes de Morbis acutis*, treats of this disease expressly in several chapters under the title of *Angina Maligna*. His history of the symptoms contains several circumstances which were not taken notice of by any other writer I have seen; so that though he was probably among the last of the Spanish physicians who wrote upon this subject, yet the diligence of his predecessors had not wholly exhausted it. In the second edition of Heredia's works, which was that I made use of\*, nothing appears whereby to ascertain the time exactly when he wrote his account; but as he mentions the *Polyanthea* of De la Parra, which, according to Ren. Moreau in

\* Petri Michaelis de Heredia Complutensis---Philippi IV. Hispaniarum regis archiatri---Opera medicinalia—Lugduni 1673. fol.



Bartholine's Epistles, was printed at Madrid in 1625, it is plain that he must have written after this time.

One might justly expect some curious observations upon this disease, from a person so well qualified for it as Thomas Bartholine: he was in Italy whilst it raged there, and, it might be supposed, would be attentive to the minutest circumstance relating to it, and be inquisitive enough to know what men of character had said upon it. But the Treatise which he wrote upon this disease, and published in 1646<sup>†</sup>, contains so little to the purpose, that it is difficult to conceive for what end it was written, unless to compliment his master Severinus, which he does very liberally ||.

† Thomæ Bartholini de Angina Puerorum Campaniæ Siciliaeque epidemica exercitationes, Lut. Parisior. 1646.

|| Zacutus Lusitanus also mentions this disease, and relates an unhappy instance of its effects in the following terms:

In his partibus (scil. faucibus) ex humoris virulenti affluxu gignuntur carbunculosaë inflammationes, quae pestis dirae, aut veneni promptissimi instar, contagio quodam, pueros et adultos corripunt; et saevis maleficientissimisque stipataë symptomatis citissimam necem inferre solent. Malum in Hispania non multis abhinc annis frequens, vulgus medicorum Hispano sermone *Garrotillo* nuncupat; de cujus essentia, periculo, brevitate, et complicatione ultivi et ulce-



According to the accounts which have been left by these Authors, it appears, that the disease which they describe was extremely malignant, and most particularly fatal to children, tho' adults, if they were much conversant about the sick, were very often seized with it; yet more of these recovered in proportion than of children; and it was observed, that more boys got well thro' the disease than girls: Some thought, that such of this sex as had black eyes suffered more from it than others.

As it was sometimes observed to carry off whole families together, and to spread to those places first, between which and the countries affected by it the communication was most frequent; and also that children,

rosi tumoris, ac deleteria corruptione, laconice dicam. Hoc fuit pressus biennis infans, sanguineus et obesus. Primo die ex catarrhosa defluxione in suffocationem pene incurrit, difficulter respirabat, et lac deglutiebat, et febris acuta affectus, nec plorare poterat. In parte gutturis dextra externa glandulosus apparuit tumor cum dolore multo. Secunda die intra fauces ulcus visum est ad nigrum vergens, quod putrilago et mollities multa comitabantur; et ab ore foetor horribilis prodibat, magnum certe corruptionis completæ indicium. Tertio die nullis adjutus auxiliis strangulatus est extinctus. De Praxi Medic. Admiranda, lib. 1. observ. 20.

sent away from the towns where it raged, in order to avoid it, escaped whilst they were kept at a distance; but had it on their return, if the disease was not extinguished; it was almost universally allowed to be contagious †:

Those who were seized with it, first complained of a pain or soreness in the throat, with a stiffness of the neck, an uneasiness on moving it, as if a cord was twisted about it, a difficulty in swallowing, and frequently in breathing also, with a disagreeable fetid smell and taste. On inspection, the *Uvula*, the *Tonsils*, *Pharynx*, and the whole *Fauces*, appeared of a remarkably florid red colour, like that attending an *Erysipelas*: This colour was not uniformly intense, but some parts seemed to be of a deeper dye than others. The parts above-mentioned were swelled more or less, tho' not always so much as to affect respiration, as in a common *Angina*.

† Quod ad contagium attinet, hoc communi omnium consensu atque experimento evincitur. Severin. p. 442.

If the attack was violent, they had an extreme difficulty in breathing, and also in swallowing, with a kind of compressive pain and straitness of the breast and back, a redness of the whole face and neck, great heat of all the parts affected, the voice much injured, an unquenchable thirst, and the patient seemingly in danger of being choaked\*. In some, the swelling and ulcers of the *fauces* were apparent upon looking into the mouth; in others, nothing could be seen, but a most offensive putrid smell was perceivable. A fever came on with the other symptoms, and was frequently accompanied with small pimples and eruptions like flea-bites. In very bad cases, this fever, which Mercatus calls a most malignant one †, did not always discover its violence

\* ——— difficultas respirandi, et non raro deglutiendi, cum pectoris et dorsi dolore ac veluti compressione suffocante, simul cum pestilente odore, et vehementi harum omnium partium ardore, et rubore totius oris et colli, cum vocis et loquelae vitio, ac linguae extractione, et siti incompossibili. Mercat. Consult. p. 136.

† Maxime ob malignissimam febrem, quam plerumque sibi adjunctam habet, &c. Consult. p. 136.

or malignity at first; but it was not the less formidable on this account \*.

On the same day, or the day following, such parts of the *fauces* as at first seemed to be of a deeper colour than the rest, turned white, ash-coloured, or black: this was not occasioned by any crust or matter superinduced upon the parts, but proceeded from a gangrenous colliquation of them, the substance itself being mortified.

The voice was hoarse and obscure, not as in a common cold, but as it is in those people who have venereal ulcers in the throat: so that, from this affection of the voice alone, some were able to guess at the disease †.

The neck and throat soon after began to swell externally; the tumour was of a soft oedematous kind, and increased in magnitude

\* —nec multum fidere oportet, si febris mox non apparuit aut succrescat, nam saepe citius suffocat affectio, quam causa succendatur; ac non raro malignitas humoris corrumpit spiritus et mortem accelerat, sine eo quod febris succendatur. Mercat. Consult. p. 137.

† Severin. p. 442.



as the disease advanced. All the symptoms were aggravated during the night. If the patients had any interval of quiet, it was commonly in the day-time\*. About the fourth day this tumour was generally grown very large, and the white places in the *fauces* began to turn black; a putrid corrosive sanies was discharged by the mouth and nostrils†; the breath grew extremely offensive; respiration, if hitherto not much affected, now became difficult, and the patient expired in a very short time.

Tho' this was the common progress of the disease, where it terminated unhappily, yet it often varied from this type, and was attended with very different symptoms. Some had an extreme difficulty of breathing almost from the first; some had a violent cough;

\* Sgambat.

† Quibus etiam accedit sublimis respiratio et alta ac spirituum revulsio, cum maxima pinnarum nasi distensione.—sanies per os et nares excretio, variis ulcerum coloribus et intensissimo foetore nauseam plerumque movente cum fordida excretionem. In aliquibus vero extra, prope cervicem, et infra mentum glandulae apparent, pestiferi morbi naturam redolentes, et universa cervix, et collum intumescunt, et fauces cum robore saturato, instar laqueo suffocatorum. Merc. Consult. p. 136.

some



some were comatous ; others had a delirium ; some died in a lethargic stupor ; others bled to death at the nose ; whilst others again had none of these symptoms, but were carried off suddenly by an instantaneous suffocation. The *oesophagus* in some was sphacelated down to the stomach ; the *aspera arteria*, in others, to the lungs. As these could only breathe in an erect position ; so those could swallow nothing when the parts were so affected. The nostrils discharged a fetid ichor, sometimes mixed with blood ; and sometimes blood alone, without mixture. This bleeding at the nose seemed at first, in one case, to give relief ; but the patient soon after died \*. Mercatus relates an instance of a child that had the disease, in which the acrimony of the humour discharged from the ulcers was so great as to inflame the nurse's breast, and brought on a mortification. He also tells us, that the father of the child whose case is described above, having frequently put his finger in the child's mouth, to draw out the viscid phlegm, had his finger

\* Severin. p. 440.

inflamed, and was seized with the same distemper †.

These were the symptoms in general, and they judged of the event by the mildness of their progress, or the contrary : tho' it was agreed, that nothing could be more fallacious than this disease ; and that the most experienced were often deceived in their prognosis.

If the redness of the *fauces* above described, which appeared at first being seized, was succeeded by an ulceration, without any of that whiteness (which for the future I shall call floughs), if the swelling about the neck and throat was not large, if the patient discharged by the mouth considerable quantities of thin pituitous matter, if the breath was

\* —erat quidem dira humoris conditio adeo perniciofa, effica-  
cax et contagiofa, quod digitum patris indicem, quo extrahebat  
eum succum ab ore filii, mordicaret, et in ruborem moveret  
cum dolore : tandem mox pater conquerebatur de difficultate  
respirandi et deglutendi cum dolore et tumore faucium, ac  
saturato colore, et glandulis extra apparentibus juxta mentum.  
Ex quibus secundo die halitum prave olentem expirabat ; ita  
ut jure optimo possis colligere, contagio filii patrem fuisse af-  
fectum. Mercat. Conf. p. 139.

not fetid, and the patient had no disgust to his food, if the eyes retained their proper lustre, all was judged to be secure.

On the other hand, if the lustre of the eyes was considerably faded \*, if the external oedematous tumour was very large, if the breath stunk, if the *fauces* were livid or black, with a coma or delirium, if with these the patient had an aversion to his nourishment, and his breathing became difficult or laborious, the danger was judged to be extreme.

It was not observed that the disease had any stated crisis ; or that the signs of recovery, or death, appeared on any certain day. Some died on the first, others on the second, third, and on every day, to the seventh ; tho' the greatest part died before the fourth †. Those who survived the fourteenth were

\* Hoc unum salutis est indicium vel interitus : dum oculorum nitor adservatur, salutis spes semper adest ; quo tempore hic deperit, in propinquo mors est. *Ætii Cleti Op.*

† —indies magis ac magis haec accidentia crescunt, donec brevissimo tempore laborantium majorem partem perimat, idque non raro intra quartum diem. *Merc. p. 137.*

thought

thought to be out of danger, at least from the disease itself \* ; though some dropped off unexpectedly, after a much longer reprieve †.

The consequences of this disease were often felt a long time after it had ceased. An excessive languor and weakness continued for many months ; and the voice or deglutition was frequently affected, so as to be perceivable in some almost a year after ‡.

It was however observed, that notwithstanding the disease most frequently was accompanied with symptoms of pestilential malignity, yet it sometimes appeared with a much more favourable aspect ; its progress not being so quick, nor its symptoms so violent and dangerous, as hath here been described to be the case in general §. At its first breaking out in any place, it was commonly

\* *Ætii Cleti Op. de Morbo strangulatorio.*

† *Quinimo post xxx dies, et xl. jam praecepti morbi furoribus, praeter omnium opinionem ex improvise sunt extincti. Adeo scil. latitans et recondita veneni vis est, Severin. p. 440.*

‡ *Æt. Clet.*

§ *Severin.*



the most severe ; it then spared no age or sex, but swept off adults together with infants \*. By degrees it became less violent, and at length either wholly disappeared, or was of so little consequence as to be disregarded.

We are directed, by most of the authors I have seen, to begin the cure of this distemper, whenever we are called in time, with evacuations, the chief whereof are bleeding and purging : which of the two ought to precede, was not a little disputed ; but it was on all hands agreed, that unless these remedies were very early applied, as they were principally useful by way of revulsion, they were not only of no advantage to the patient, but highly injurious †. Observations of this

\* —ut pestis more in citissimam mortem pueros et adultos deducat. Merc. Consult. p. 135.

† —disputare coepimus de sanguine extrahendo : “ siquidem non defuerunt medici, qui id renuerunt :” caeterum unanimi consulentium consensu, primo die sanguinem misimus, cruribus scarificatis, et mox octava noctis hora brachiis, aut si ultra duos annos fuerit natus, ex vena brachii : “ in hoc malo plurimum vereri oportet, vires plurimum dejicere.” Mercat.

Brevissime secandam esse venam in hoc consentitur omnes. P. Mich. de Heredia de Morb. acut. p. 101.



kind, we are told \*, induced several physicians to omit bleeding entirely ; and it was, probably, the reason why those who were friends to venesection ordered it more sparingly in this than in most other acute diseases†. Severinus, who was by no means a timid operator, orders from four to eight ounces to be taken away ; which, considering the common practice in those countries, is a very small quantity ‡.

\* Circa quod praesidium (venaesectionem) in pueris exequendum, consulo ne differatur, quia ejus occasio solum est, antequam fluxio in partibus contenta ad putredinem commigret. Nam tunc temporis, si sanguinem fuderis, summopere laedes, quae causa fuit quod multi medicorum, viso hoc damno, renuerint sanguinem mittere. Mercat. Consult. p. 138.

† In hoc sacro igne non mittendus est sanguis in ea quantitate ac in angina exquisita.—Placuit quibusdam in hoc morbo secare venas sub lingua ; alii admoverunt hirudines collo ; mihi nulla istarum evacuationum unquam probari potuit. Nam cum tumor superveniens ex sanguine non oritur, frustra adhibentur ea auxilia quae ad sanguinem ex parte affecta evacuandum excogitata fuerunt. Sgambat. de Pest. Faucium Affect.

Esse vero efficiendas parcas missiones in quantitate, dum revellere intendimus, docuit antiquitas.—Quod praeceptum magis observandum in morbo praesenti, in quo nimis timeamus virium jacturam. Copiosa enim sanguinis missio, praeterquam quod minus proprie revellit, dejecit vires. P. M. de Heredia, ubi supra.

‡ Severin. ubi supra.

Some

Some not only gave the precedence to purging, but imagined it alone was sufficient; alledging as a reason for it, that some children have recovered where this evacuation only had been employed; whilst bleeding had been injurious, by lessening the strength \*. Purging was however commonly allowed the second place by those who were advocates for bleeding, but under the like restrictions †. They generally made use of manna, rhubarb, senna, tamarinds, syrup of roses, and the like, for this purpose. But it was always inculcated, that, in directing these evacuations, the patient's strength was especially to be regarded; since whatever diminished this, in the end was undoubtedly prejudicial ‡.

Severinus orders an antimonial vomit to be given at the first attack, and a cooling

\* —hoc solo praesidio aliquando visum fuit, pueris ad integram sanitatem recuperandam sufficere, sicut aliis sanguine detracto, vires plurimum fuisse dejectas. Merc. Conf. p. 138.

† Quod evacuandum morbus exposcit, evacuetur brevissime. Idem, p. 102.

‡ —in morbis malignis breviter destruentibus vires, at poscentibus simul robur animalis virtutis ad sui sanationem, multum evacuare non licet. Heredia, p. 102.

gently astringent gargle to be used night and day. He then orders a clyster, takes away some blood from the jugular, and gives from fifteen to twenty-one grains of bezoar mineral twice a-day, or oftener, as occasion requires, with thin diluting liquors, in order to raise and promote a moderate sweat. He gives five or six grains of the same medicine to children at the breast, and commends it highly. He scarifies the discoloured parts in the *fauces*, in order to let out the corrosive virus ; a practice which, though it was recommended by the Spaniards §, was disliked by some of the most eminent Italians †.

Cupping, with scarification, was universally approved, and commonly practised. Leeches were also applied, by way of revulsion, to different parts.

Considerable benefit was expected from ligatures made on the extremities, and from

§ Si vero malum non mitescat, sed gravius affligat partem, quod constabit ex lucido aut nigro colore, vel ex nimia molitudine—cum intolerabili foetore, scarificabitur profunde, prout partis natura tulerit. Heredia, p. 105.

† Cort. Miscel. p. 697.

chafing the limbs with the hand, or a cloth ; also from cupping without scarification ; apprehending that a revulsion from the parts affected was by this means procured ; and that some portion of the morbid matter was carried off by the pores of the skin.

Some of the Spanish physicians recommended vesicatories of cantharides, and other acrid or caustic substances, to be laid on each side of the neck ; but they had not the same opinion of their usefulness, when applied to the back or shoulders. Heredia expressly tells us, that he had seldom found any benefit from them \*. Neither do the Italian physicians seem to have been fond of them ; the progress of the disease was, in their opinion, too swift to admit of any relief from either caustics or vesicatories †, both of which had been made use of in Spain ‡.

To moderate the continual and malignant fever which accompanied this disease from

\* Multi etiam vesicatoria consulunt spatulis applicata.—  
Quod auxilium parum prodesse semper vidi: Heredia, p. 108.

† Sgambat.

‡ Heredia, ubi supra.



the first, and which was thought by some to be only symptomatical, and had therefore the last place in their consideration \*, they had recourse to such internal medicines as were deemed cordial and alexipharmac. Armenian bole, bezoar both animal and mineral, and, according to the philosophy of those times, the precious stones were reckoned of this class. Of vegetable products, the juices of citrons, lemons, oranges, pomegranates, and sorrel; vinegar, the juice and decoctions of borage, bugloss, *Carduus Benedictus*, endive, scabious, scorzonera, scordium, with many others of the like nature, were recommended. But a decoction of the contrayerva root was in the highest esteem in this disease, both as an alexipharmac in general, and for its peculiar efficacy, when applied as a gargle; to which Mercatus, from his own repeated observations, gives a very ample testimony †.

\* Febris etiam continua statim in initio apparet, symptomatica quidem. Heredia, p. 97.

† Hoc unum observantissimum habeo, nimirum omnes oris et gutturis collutiones efficere supra decoctum ejus celeberrimi medicamenti, quod medici Hispani Contrayerva nuncupant, maxime si mucosa et viscida pituita abundaverit. Mercat. Consult. p. 138.

But



But as they found from experience, that no regular crisis or concoction of the humours was to be waited for ; that no evacuations, except by way of revulsion, after the access, were of use \*, they began to consider the disease as local, as a particular † morbid affection of the *fauces*, and applied themselves chiefly to topics, without laying much stress on internals.

In this part of their directions they have therefore been more explicit; and some of them, in order to point out their applications with more propriety, have divided the course of this disease into four different periods ‡.

The first they called the state of inflammation. In this, mild repellents were thought necessary ; such as vinegar in barley-water, juice of the pomegranate, syrup

\* —Experimento monstratur, quamcunque evacuationem per alvum, aut sudorem inutilem esse et nocivam, quia cum non profit, necessario debilitat. Hered. p. 100.

† Cortes. Miscel. p. 703.

‡ Sgambat. de Affectu Faucium pestilente.

of roses, mulberries, purslain, or a decoction of barley, red roses, liquorice, and plantain; to two pounds of which were added *acet. rosar.* 3j. *fs. syr. Diamor.* 3j. *M* \*. If it was required yet more repellent, a small quantity of allum was added.

The second stage is that wherein the white sloughs begin to appear, which is a step towards a gangrenous colliquation. In this they ordered mild abstergents and antiputrescents; such as a decoction of lupins, beans, vetches, with honey of roses †.

The third is, when the ulcers appear foul and fordid, and begin to look black, a real mortification being come on, sometimes penetrating to a considerable depth, with great putrefaction. More powerful astringents and exsiccants were requisite in this case; such as powder of myrrh, and a little allum mixed with honey, or honey of roses; bole dissolved in treacle-water; a solution of *un-*

\* Heredia, p. 105.

† Idem, *ibid.*

guent: *Ægyptiacum* in barley-water was also much in use\*. Allum, sulphur, copperas, verdigrease, oil of vitriol, oil of sulphur, spirit of salt alone, or mixed, or diluted in different liquors, were much employed. In this case, sometimes the acid spirits were dexterously applied to the parts affected, by means of an armed probe; but they were oftener diluted with syrup or honey of roses, and in children poured into the mouth.

Though many had recourse to these powerful remedies, and even to arsenic itself, yet the most experienced were justly afraid, that the use of such caustic and acrimonious applications was often attended with pernicious consequences, both to children and adults; and they are therefore, with good reason, condemned by Mercatus †.

\* Celebris utilissimaque est unguenti *Ægyptiaci* lotura: sumuntur quidem  $\text{z}ij.$  et infunduntur in  $\text{z}ij.$  aquae hordei, plantaginis, vel feri lactis: post infusionem percolatur per linteum, et colatura tangitur ulcus. Idem, *ibid.*

† Ego quidem arbitror, plures pueros interfecisse usum horum medicamentorum, quae caustica sunt, quam affectionem ipsam. Merc. Consult. p. 139.

— compertum habuimus in hoc viro, et aliis laborantibus, haec caustica inflammationi et ulceri summopere esse nocua: suppurantia corruptioni. Id. p. 40.

Nevertheless some went so far as to advise the actual cautery, if the potential ones did not succeed, and gave directions for the time and manner of their application \* ; but as this operation will be liable to all the objections made to the former, to have mentioned it will, I imagine, be thought sufficient.

Tho' the author last quoted advises us to scarify the black or livid crusts or sloughs, yet he gives us a caution not to tear them off, or forcibly to separate them, as the consequences would be an encrease of pain and inflammation ; whence the ulcers would spread, and at the same time eat deeper †.

In the fourth stage the putrefaction is supposed to be extinguished, the mortified parts cast off, and an ulcer only remains. In this case, the fume of white amber thrown on live coals, and received into the mouth, as a *suffitus*, was advised ; also the *vinum myrrhites*, a decoction of guaiacum, roses, balauftines, pomegranate-peels, by way of gargle ;

\* Heredia, p. 106.

† Idem, p. 109.

medicines that were supposed to dry with some degree of astringency.

Such was the appearance of the *Angina maligna*, or ulcerated sore throat, at its first being taken notice of in Europe; and such were the methods of treating it then in use. In this recital I have been the more prolix, inasmuch as the disease described in the following pages, is the same with the *Angina maligna* of these writers, with whose experience and observations it may doubtless be of use to us to be acquainted.



P A R T II.

*Of the SORE THROAT attended with*  
U L C E R S ;

As it has appeared in THIS CITY and Parts  
adjacent.

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A C C O R D I N G to the information I have received from several eminent persons of the Faculty, it was in the year 1739, that a disease was first taken notice of, which was thought to be the *Morbus strangulatorius*, already described, and which differed in no essential circumstance, as far as I can learn, from the distemper which is the subject of this treatise.

The sudden death of two children in a family of distinction, and of some others near the same part of the town, whose complaints

plaints had chiefly been of a fore throat; seem to have occasioned this suspicion : but as very few cases of the like nature occurred after these, or, if they happened, passed unobserved, little mention was made of it during several years.

It began however to shew itself again in 1742, but not in so general a way as to render it the subject of much public discourse ; for tho' such of the Faculty as were in the most extensive practice met with it now and then, in the City especially, it remained unknown to the greatest part of practitioners, till within these two or three years, in which time its appearance has been more frequent, both in town and the villages adjacent.

I am informed, that in the winter of 1746, so many children died, at Bromley near Bow in Middlesex, of a disease that seemed to yield to no remedies or applications, that several of the inhabitants were greatly alarmed by it ; some losing the greater part of their children, after a few days indisposition. Some others of the neighbour-

ing places were affected at the same time with the like disease; which, from all the accounts I have met with from those who attended the sick, was that here treated of. I am informed likewise, that it raged at Greenwich about the same time \*. It still continues in this City, and sometimes shews itself in the villages about it, tho' at present with so mild an aspect as seldom to prove fatal; unless the subject is very unfavourable, or the disease hath been neglected, or improperly treated at the beginning; which circumstances, tho' of some importance in all cases, yet are of the utmost in this; as a wrong step at the first may put it out of the power of art to afford relief.

Tho' this disease has now been amongst us several years, and has consequently sur-

\* The Reader may be pleased to take notice, that the facts contained in the following narrative, where the contrary is not expressly mentioned, have all come under the Author's observation, who has endeavoured to relate what he has seen, and in such a manner as he thought would best contribute to public advantage. It may also be necessary to observe, that the disease is described as it appeared in 1747 and 1748, that if the symptoms should hereafter vary in any circumstance, the diversity may be attributed to the nature of the distemper, and not imputed to design or inattention.

vived the different seasons, and all the variety of weather to which we are exposed, yet it seems to shew itself most frequently in autumn and the beginning of winter; at least I have met with many more cases from September to December inclusive, than in all the other months together.

It may likewise be remarked, that the summers of 1747 and 1748 were dry, with some days in each uncommonly hot, for this climate; the mercury in Fahrenheit's thermometer rising in the shade, and within doors, one day to 78, and during several to 75 and 6. The autumns of the same years were as unusually temperate and warm; the wind continuing longer in the southerly points than has often been known at this season.

In this country, as well as in those where the *Angina maligna* was first taken notice of, children and young people are more exposed to it than adults: a greater number of girls have it than boys; more women than men; and the infirm of either sex are more liable to have the disease, and to suffer from it,  
than

than the healthy and vigorous : I have seen but few adults of this constitution affected by it, and not one who died of it.

When it breaks out in a family, all the children are commonly affected with it, if the healthy are not kept apart from the sick ; and such adults as are frequently with them, and receive their breath near at hand, seldom escape some degree of the same disease.

It generally comes on with such a giddiness of the head as commonly precedes fainting, and a chillness or shivering like that of an ague-fit : this is soon followed by great heat ; and these interchangeably succeed each other during some hours, till at length the heat becomes constant and intense. The patient then complains of an acute pain in the head, of heat and soreness, rather than pain, in the throat, stiffness of the neck, commonly of great sickness, with vomiting, or purging, or both §. The face soon after looks red and swelled, the eyes

§ The vomiting and purging were but seldom observed to accompany this disease, at its first appearance amongst us, as I have



inflamed and watery, as in the measles ; with restlessness, anxiety, and faintness.

This disease frequently seizes the patient in the fore part of the day : as night approaches, the heat and restlessness increase, and continue till towards morning ; when, after a short disturbed slumber (the only repose they often have during several nights) a sweat breaks out ; which mitigates the heat and restlessness, and gives the disease sometimes the appearance of an intermittent.

If the mouth and throat be examined soon after the first attack, the *uvula* and *tonsils* appear swelled ; and these parts, together with the *velum pendulum palati*, the cheeks on each side near the entrance into the *fauces*, and as much of them, and the *pharynx* behind, as can be seen, appear of a florid red colour. This colour is commonly most

I have been informed by some physicians of eminence, who saw it early ; but it is generally agreed, that these symptoms almost constantly attended, in the manner here described, during the years 1747 and 1748, the time in which these observations were collected : and I have since found, that the above-mentioned symptoms have not so regularly appeared as at that time,

observ-

observable on the posterior edge of the palate, in the angles above the *tonsils*, and upon the *tonsils* themselves. Instead of this redness, a broad spot or patch, of an irregular figure, and of a pale white colour, is sometimes to be seen, surrounded with a florid red; which whiteness commonly appears like that of the gums immediately after having been pressed with the finger, or as if matter ready to be discharged was contained underneath.

Generally on the second day of the disease, the face, neck, breast, and hands, to the fingers ends, are become of a deep erysipelatous colour, with a sensible tumefaction; the fingers are frequently tinged in so remarkable a manner, that, from seeing them only, it has not been difficult to guess at the disease.

A great number of small pimples, of a colour distinguishably more intense than that which surrounds them, appear on the arms, and other parts. They are larger, and more prominent in those subjects, and in those  
parts

parts of the same subject, where the redness is least intense; which is generally on the arms, the breast, and lower extremities\*.

As the skin acquires this colour, the sickness commonly goes off, the vomiting and purging cease of themselves, and rarely continue after the first day.

The appearance in the *fauces* continues to be the same, except that the white places become more ash-coloured; and it is now discoverable, that what at first might have been taken for the superficial covering of a suppurated tumour, is really a slough, concealing an ulcer of the same dimensions.

All the parts of the *fauces* above-mentioned are liable to these ulcerations; but they generally are first discernible in the angles above the *tonsils*, or on the *tonsils* them-

\* The redness and eruption have not accompanied this disease so regularly, during the latter part of this winter †, as they did in the preceding seasons: in some cases they did not appear at all; in others, not till the third or fourth day; and, as I have heard, in some not till the fifth, and even later.

† 1754.

selves; though they are often to be seen in the arch formed by the *uvula* and one of the *tonsils*; and also on the *pharynx* behind, on the inside of the cheeks, and the base of the tongue, which they cover in the manner of a thick fur. Instead of these sloughs, where the disorder is mild, a superficial ulcer, of an irregular figure, appears in one or more of these parts, scarce to be distinguished from the sound, but by the inequality of surface it occasions.

The parotid glands\* on each side commonly swell, grow hard, and are painful to the touch; if the disease is violent, the neck and throat are surrounded with a large œdematous tumour, sometimes extending itself to the breast; and, by straitening the *fauces*, increases the danger.

Towards night, the heat and restlessness increase, and a *delirium* frequently comes on.

\* Heredia takes notice of the same symptoms, and assigns a very probable reason for it,—In *Angina maligna non tument externa, quia in illas ex externis translata materia fuerit, sed quia ita adimplentur interna, ut materiam fluentem non capiant, et sic ad externa dilabatur.* Heredia, p. 99.

This



This symptom, which appears in some even on the first night, seems to differ considerably from the like affection in other diseases. The sick commonly answer the questions put to them properly, but with an unusual quickness; they talk to themselves incoherently when left alone, and frequently betray the first tendency to this disorder, by affecting too great a composure: This, for the most part, happens to those who sleep but little; for some are comatous and stupid, and take little notice of any thing that passes.

In this manner they continue during two, three, or more days; they commonly grow hot and restless towards the evening: which symptoms and the *delirium* increase as night comes on; a sweat more or less profuse breaks out towards morning; and from this time they are easier during some hours; a faintness only continuing, of which they frequently complain more than of the rest of their sufferings.

The disease seems to have no stated period which can properly be called its Ἀκμὴ, or  
x
height.



height. Some grow easier from the first day of the attack; but, in general, the symptoms of recovery appear on the third, fourth, or fifth day, and proceed in the following manner:

First, The redness of the skin disappears; the heat grows less; the pulse, which was hitherto very quick, becomes slower; the external swellings of the neck subside\*; the sloughs in the *fauces* cast off; the ulcerations fill up; the patient sleeps without confusion, is composed when awake, and his appetite begins to return.

The pulse, during the whole course of this disease, is generally very quick; frequently 120 strokes, or more, in a minute: In some it is hard and small; in others soft and full, but without that strength and firmness which usually accompany equal quickness and heat, in genuine inflammatory disorders.

\* At least, of all the parts about the neck, except the parotids themselves; which sometimes continue swelled and hard a long time after the other symptoms abate, and at length suppurate.

If

If a vein be opened soon after the distemper is come on, the blood generally appears of a fresh florid red; the *crassamentum* is rather of a lax gelatinous texture, than dense or compact; the *serum* yellow, and in a large proportion \*.

The urine is at first crude, and of a pale whey-colour: as the disease advances, it turns yellower, as if the bile was diluted in it; and, soon after the patient shews any marks of recovery, it commonly grows turbid, and deposits a farinaceous sediment.

They seldom have any stools, if the symptoms are favourable, from the time when the purging, which generally attends the accession, ceases. This discharge is frequently bilious and without any pain: tho' these evacuations differ in different habits.

They complain of thirst commonly less in this than in other acute diseases. The

\* But it is often sily when the disease has continued two or three days; and in some instances which lately occurred, it was so soon after the first attack.

tongue is generally moist, and not often furred: in some nevertheless it is covered with a thick white coat or fur, and these generally complain of soreness about the root of the tongue.

The *uvula* and *tonsils* are sometimes so much swelled, as to leave but a very narrow entrance into the gullet, and this entrance frequently surrounded with ulcers or sloughs; yet the patients often swallow with less difficulty and pain than might be expected under such circumstances\*.

They frequently complain, soon after they are taken ill, of an offensive putrid smell affecting their throats and nostrils, which oft occasions sickness before any ulcerations appear.

In those who have this disease in a severe manner, the inside of the nostrils, as high up as can be seen, frequently appears of a

\* I have seen many cases, where these glands were so enlarged, as to force back through the nostrils most part of what was attempted to be swallowed.

deep red, or almost livid colour : after a day or two, a thin corrosive *sanies*, or with it a white putrid matter, of a thicker consistence, flows from them, which is so acrid, as to excoriate the part it lies upon any considerable time. This is most observable in children, or in young and very tender subjects, whose lips likewise are frequently of the colour above mentioned, and covered on the inside with vesicles containing a thin *ichor*, which excoriates the angles of their mouths, and the cheeks where it touches them.

It is probable, that part of the same acrid matter passes with the nourishment into the stomach; especially in children; and it is perhaps owing to this cause in part, that they suffer much more from the distemper than adults; this corrosive fluid, without doubt, producing the same effects on the stomach and bowels, as it does when applied to the much less sensible skin of the face; *i. e.* it excoriates the parts it touches; which, in fact, seems to be the case: for, if they get over this stage of the disorder, a

P 2

purging



purging sometimes succeeds, attended with the symptoms of ulcerations in the bowels; and after enduring great pain and misery, perhaps some weeks, they at length die emaciated. I have been informed, that some children have had the parts about the *anus* excoriated\*; the *sanies* retaining its virulency through the whole tract of the intestines.

The sick sometimes bleed at the nose towards the beginning of the disease; and the *menfes* very often appear in those of the female sex who are of age to have them, soon after they are seized, notwithstanding the regular period is at a considerable distance: If they are taken ill about the usual season, the discharge is commonly greater than it ought to be. Some young persons, who never had the least appearance of them, have had this evacuation during their illness.

\* Some adults, who have had the disease in a violent degree, have suffered very much from the same cause: emollient mucilaginous liquids taken plentifully, and also applied externally, by way of fomentation, to the part affected, frequently give speedy relief.



In strong and full habits, these evacuations are seldom attended with much benefit, or with manifest ill effects, unless they are very copious; for in this case they occasion great faintness, and an increase of the other symptoms, in proportion to the excess. In tender weak subjects they are often prejudicial.

It has happened in this distemper, that hæmorrhages from the nose and mouth have suddenly carried off the patient. I have heard of the like accident from bleeding at the ear: but these fatal discharges most commonly happen after the patient has been ill several days; and it seems more probable, that they proceed from the separation of a slough from the branch of an artery, rather than from a fulness of the vessels, or an effort of nature to relieve herself by a salutary crisis\*.

\* This I find was also Heredia's opinion, who considers a discharge of blood, either from the mouth or nose, as a sign of the utmost danger.—*Malignam significationem præbet segnis sanguis stillans e naribus; ex corrosione quippe vasorum, et putrilagine emanat, innuitque certissimam mortem, quia putredo interne cohiberi non potest:—ideo periculosissimus censetur sanguinis fluxus ex naribus aut ore. Quidam cum*  
P 3 hoc

Bleeding in this disease has in general been observed to be prejudicial: Some indeed admit of it at the first attack, without any sensible inconvenience; but a repetition of it, even where the disease is mild and favourable, seldom fails to aggravate the symptoms; and in some cases it appears to have produced very fatal consequences. The heat, restlessness, delirium, and difficulty of breathing, which this evacuation commonly prevents or mitigates in other cases, in this are increased by it; nor does the swelling of the *tonsils, fauces, &c.* seem to receive the least benefit from it: on the contrary, though the fulness of these parts decreases, yet the sloughs thicken, and change to a livid or black colour, the external tumour grows large, and the spitting commonly diminishes †.

hoc signo nullum vidisse liberatum docent: nos vero unicum solum ægrotum summa diligentia a tanto periculo vindicavimus. *Heredia*, p. 100. Of three whom I attended, and who had this symptom, two recovered: the third died of a bleeding at the nose, before any assistance could be procured.

† The heat indeed and quickness of the pulse seem at first to be affected by this evacuation, but they commonly return after a fallacious respite with greater violence; the patient is seized with a difficulty of breathing, falls into cold sweats, a stupor, and dies suddenly.

Nor

Nor has purging been observed to be more beneficial: gentle cathartics have brought on very dangerous symptoms. Upon procuring a few stools with manna, especially when the disease has continued two or three days, the redness of the skin has disappeared, and the flux to the throat has been surprisingly increased: If it happens that this discharge by stool continues, the swelling of the neck commonly grows larger; the *fauces* become flaccid, dry, and livid; and the patient in a few hours after this expires: so that purgatives seem to have no better effects in diminishing the tumour, and abating the supposed inflammation, than bleeding.

Nitrous cooling medicines frequently produce the like effects; they increase that faintness which accompanies this disease, and either dispose the patient to copious sinking sweats, or to stools.

Upon the whole it appears, that all evacuations which tend to lessen the natural strength of the constitution, are in this disease injurious; and that those persons in com-

mon are in the greatest danger, if attacked with it, who have been previously indisposed, or have had their strength impaired by grief, or any other accident. Of which it may not perhaps be improper to relate an instance or two in this place, as it will also tend to explain the usual progress of the symptoms in the worst cases we meet with.

A young gentlewoman about 26 years of age, of a pale lax habit, but of an active cheerful disposition, had enjoyed a pretty good share of health in common, till a year or two before her last illness; about that time she unhappily made use of some external and empirical application to remove a redness attended with pimples, which now-and-then broke out in her face. She was soon relieved from this complaint by the medicine she used; but was quickly after seized with sickness, vomiting, loss of appetite, and either an obstinate costiveness, or a troublesome diarrhœa; the *menfes* were pale, and in small quantities; and her health in general was greatly impaired.

-She



She had scarce recovered from this weak state, when the death of a near relation brought her almost into the same circumstances ; from which she was slowly recruiting, when she married. Her sickness, vomiting, and loss of appetite, soon returned ; which she concealed as much as possible.

Under these disadvantages, she was seized with this distemper, a day or two after she had visited an acquaintance labouring under the same disorder : it came on with a coldness and trembling like that of an ague-fit, great faintness, and an acute pain in her head, with a vomiting more violent than she was usually affected with, and a purging. Towards evening she grew very hot and restless, complained of a soreness in her throat, and the discharges abated. Her face, neck, and hands were intensely red : she frequently sighed, and from her aspect and gestures there was reason to suspect a delirium approaching. She slept little that night ; and next morning her pulse, which before was very quick and small, seemed to be somewhat



what more full, but not sensibly flower ; and she complained of faintness and anxiety. The parts about the *fauces* were much relaxed, very red, in some places almost livid, with a kind of glossy dryness upon them. She continued in this manner, without any remarkable encrease of symptoms, till night, when the looseness returned, and in a very short time exhausted her strength to a great degree : the redness upon the skin disappeared, the extremities grew cold, her eyes became dim, her pulse scarce perceptible, she breathed with difficulty, and expired in the morning, on the third day of the disease.

Another young woman, who frequently visited, and sometimes assisted, a relation who had this disease, was attacked with it in the usual manner. She was about 17, of a pale and somewhat bloated lax habit, naturally inactive, averse to exercise, and was thought to have indulged some painful solicitude, to the prejudice of her health, and making way for an obstinate chlorosis.

Under

Under these circumstances she was seized with the usual complaints, but in a violent manner. The purging continued till the day following ; when it yielded for a time to the power of opiates ; but constantly returned when their effects were over. The other symptoms, such as heat, restlessness, anxiety, and faintness, encreased with the purging ; the pulse was small, quick, and hard ; a difficulty of breathing came on, the small remains of lustre in the eye perished, and she died early on the fourth day of the distemper.

No marks of any sloughs in the throat appeared in either of these cases ; but the redness became daily more intense, and approached nearer to lividness, whilst the *fauces* could be inspected, which, from the great difficulty they had in breathing, was impracticable, several hours before the patients expired.

Warm aromatic cordials and anodyne astringents were administered assiduously, with suitable nourishment, and vesicatories applied successively to the neck, back, and arms, but without effect.

If

If the purging therefore continues long after the first exacerbation of the disease, it may be looked upon as a dangerous symptom: for though it be sometimes restrained for the present by opiates or astringents, yet it commonly returns with more vehemence when their efficacy ceases, and in a short time exhausts the small degree of strength remaining.

In this case they generally spit very little; the *fauces* appear dry, glossy, and livid; the external tumour grows large; they void their excrements without perceiving it, and fall into profuse sweats; respiration becomes difficult and laborious; the pulse sinks; the extreme parts grow cold, and death in a few hours closes the scene; and in no disease that I have seen, is the eye so early deprived of its lustre as in this; for it is sometimes opaque or dim several hours before death; and, as *Ætius Cletus* hath observed, is a fatal presage of its approach\*.

\* *Heredia's* description of the fatal progress of this disease, and the necessary cautions he gives in respect to the prognostic, deserve particular notice.

*Fallacissimam esse hujus morbi naturam, consentunt omnes. —ulceribus oris, et partium quae visui existerant conspicuae,*  
recte

A copious flux of pituitous matter to the glands, and other parts about the *fauces*, seemed to be the cause of sudden death, in a girl about 12 years old. She was seized in the common way, with shivering, head-ach, sickness, vomiting, and purging. The discharges abated in a few hours, and were succeeded by great heat, redness of the skin, and a sore throat; the *uvula*, *tonsils*, and contiguous parts, were red, and so swelled in eight or ten hours, as to touch each other, and seemed to close the entrance into the *pharynx*. She breathed without much difficulty, swallowed with less pain than could

recte curatis, et sedata inflammatione aeger periclitatur.—ex eo quod paulatim serpit putredo per asperam arteriam ad cor, aut per gulam ad ventriculum, sine aliquo dolore, aut febris sensibili, cujus sit habenda cura: et cum medicis auxiliis, ablata fuerint ulcera, et inflammationes sedatae in partibus visui patentibus, occulta putredo, paulatim mortificans partes internas, tabe, parvissimis et debilissimis pulsibus extinctione caloris, refrigeratione extremorum, faciei extenuatione, inappetentia perpetua, et molesta mutatione decubitus, somno fallaci, et apparente, quia vigilandi impotentia, somnum verum aemulatur, misere aegrotantes interficit, ut visum jam sit subita et inopinata morte periisse aliquos,—e lecto surgentes, et intra domos ambulantes; ob quod etsi quae vitiata apparebant in faucibus, aut partibus aliis, in melius mutata conspiciantur, non licet salutem polliceri, quia solet communicari paulatim putredo, et gangraena partibus internis. Heredia, p. 99.



be imagined, and spit up large quantities of phlegm. About six in the evening she was seized with a difficulty of breathing, as if strangled : those about her raised her up, thinking she was in a fit ; she recovered herself a little, but expired upon being again laid down in bed, in somewhat less than 24 hours from the first attack. A large quantity of viscid phlegm with which, after she was dead, her mouth appeared to be filled, together with the tumefied *uvula*, *tonsils*, and *velum palati*, had perhaps jointly closed the *rima glottidis*, and put a stop to respiration.

By a fall in her infancy she was reduced to the necessity of using crutches. She was big-boned, had a good appetite, and, for want of that exercise which persons at her age commonly enjoy, seemed to be plethoric. These circumstances perhaps might contribute to this speedy and unhappy event.

Accidents of the like kind seem not to have been uncommon while this disease con-  
I
tinued.



tinued in Italy, according to a remark of Cortesius \*.

From the preceding account of the Sore Throat attended with Ulcers †, it will, I believe, appear, that this disease is widely different from a common sore throat, or simple inflammation of any of the parts about the *fauces*; both as to the subject commonly affected by it, the manner of its attack, the progress of the symptoms, and its conclusion: for the sore throat with ulcers generally attacks children; and of these, girls more frequently than boys, as hath been observed. If adults are seized with it, they are commonly such as have been very much conversant with the sick, or else are weak and infirm: and it seems to affect those adults in the severest manner, who have been pre-

\* —Ad praedictarum partium (Uvulae, Tonsillarum) inflammationem subsequebatur interdum materia quaedam pituitosa a capite tam repente et inopinato descendens, ut miseri aegrotantes subito suffocarentur. Cortes. Miscell. p. 697.

† The disease here treated of is, strictly, “a Sore Throat;” since by soreness we aptly express the uneasy sensation accompanying an ulcer (i. e. a sore) and not that which attends an inflammation, which is indeed pain, but not properly soreness.

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viously indisposed, or whose strength has been reduced by unseasonable or immoderate evacuations.

On the contrary, the common *Angina*, or an inflammation of the *tonsils*, most frequently attacks the healthy, the vigorous, and robust; the weak, the delicate, and infirm, are less exposed to it, at least suffer less from it, than the former.

As both diseases are attended with a fever, and as most fevers come on with shivering, or chillness, this symptom may at least appear equivocal: but if sickness, or vomiting, or purging, or an acute pain of the head, towards the back parts or top especially, or if all these come on in the space of a very few hours, which they generally do where the disease is vehement, it may justly be esteemed to be of the putrefactive kind: but if with these symptoms an erysipelatous redness discovers itself in the *fauces*, with ulcerations or sloughs, the disease is evident.

In some cases, the symptoms have been so obscure, that it was difficult to determine to which

which disease they properly belonged : but in these circumstances they were commonly so favourable, that, supposing the disorder not to be of the ulcerated kind, no other inconvenience seemed likely to ensue from treating it as such, than a suppuration ; which is often an event rather to be chosen than avoided.

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The redness of the skin in the face, neck, breast, and hands, is another obvious and distinguishing characteristic, which in children, and young people especially, seldom fails to accompany this disorder.

In the common sore throat, a local inflammation is the disease : all the symptoms are derived from this source : an acute throbbing pain, greatly increased upon swallowing even liquids, is the principal grievance. In the other, the whole habit suffers, as if by a *stimulus* of a peculiar nature ; and although the throat is always more or less affected, yet it is sometimes the least part of the patient's complaint ; and instances have occurred to

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me of considerable floughs being formed, before any foreness or pain in the *fauces* hath been mentioned.

Again, this disease is accompanied with a greater tendency to a delirium, than either a common *Angina*, or almost any other distemper we are acquainted with. To have this symptom appear in the disease we are treating of on the first night, is not uncommon; and on the second, frequent. A girl about eight years of age, whom I attended, was scarce known to be indisposed, till she alarmed the family, by appearing to be light-headed. She had made no complaint of her throat, nor was this part thought to be affected, till, upon examination, I found it so; being led to suspect it by the colour of her hands, and the delirium. She got well through the disease, though its progress, at first, appeared to be very swift.

A common sore throat, if the patient recovers, either goes off by resolution, or the parts affected suppurate, or, if glandular, become hard and scirrhus.

In that attended with ulcers, none of these circumstances happen ; for it terminates in a superficial ulceration of some of the parts about the *fauces*, if the disease is very mild, with little appearance of any sloughs, and with large and deep ones, of a white cineritious, livid, or black colour, if it is more violent.

It will not perhaps be difficult, from such a comparative view, to distinguish this disease from a common sore throat, or an inflammatory affection of those parts in most instances : but there is another no less certain criterion, tho' too often a fatal one, which is the constant encrease of symptoms upon bleeding, purging, and the liberal use of cooling antiphlogistic medicine : a method, which, as it seldom fails to remove a genuine inflammation, if it is early enough and assiduously pursued, so it is too often injurious in the present case ; an instance whereof I think evidently appeared in the following subject.

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A youth



A youth about 14 years old, of a brisk, lively disposition, who had enjoyed a good share of health, saving that, for a few years past, a cutaneous disease, a-kin to a leprosy, had sometimes appeared on his head and arms, was seized one morning with a general uneasiness, and a disposition to vomit ; he was put to bed, and a severe shivering ensued ; his sickness encreased, he vomited up every thing, had several purging stools that day, and complained much of his head, with some foreness in his throat. He was ordered to be blooded, and had an emetic given him : this operated but little ; he grew hot and restless, a deep redness spread itself over his face, hands, and arms, with a plentiful eruption of small pimples, which induced those about him to apprehend it was a common scarlet fever.

The next day, which was the second of the disease, his throat continuing sore, and the feverish symptoms encreasing, a purge of manna was given him, which operated gently ; and at night his head and throat being  
more

more uneasy, his heat still continuing, with a tendency to delirium, a blister was applied.

On the third, the symptoms not abating, he lost about ten ounces of blood. He had taken a cooling nitrous powder every four hours; this was now changed for one more cordial. At night he grew delirious, his fever encreased, and he had some loose stools, which were rather encouraged than restrained, as it was hoped they might relieve him. Blisters were applied to his head and arms.

On the fourth in the morning I was sent for: I found him delirious, with convulsive twitchings; his hands in constant motion, gathering the bed-clothes; his pulse quick and weak; his tongue parched. With some difficulty I looked into the *fauces*; they seemed to be pale in some places, intensely red or livid in others, with a glossy brightness: his excrements came away involuntarily; his eyes were languid and dim: he breathed with difficulty, fell into profuse clammy sweats, and died in a few hours after,

In some of the first cases I met with, the quickness of the pulse, the degree of heat, the apparent inflammatory redness of the eyes and face, and pain in the head, sometimes urged me to order bleeding, especially if there were any marks of a plethora; but in these cases it did not appear to have any advantageous effects: so that, notwithstanding the vehemency of the symptoms above mentioned, it seems proper in general to omit this evacuation.

Cupping with scarification has been applied to the shoulders and back of the head, in order to remove an acute pain of this part, which is often complained of, but, as far as I have been able to observe, without much benefit.

It is necessary that the patient should keep in bed as much as may be, tho' the disease should seem to be slight: it has happened, for want of care in this respect, that a purging has come on, the redness of the skin disappeared, and a disorder which, with confinement alone, would probably have gone off

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in twice 24 hours, has been rendered tedious and difficult.

If we are called in at the first, while the sickness or vomiting continues, it will be of use to promote this discharge, by giving an infusion of green tea, camomile-flowers, *carduus*, or a few grains of *ippecacuanha*. In some instances, where the attack has been severe, and this method practised, the disorder has gone off with more ease than was at first apprehended.

If these symptoms do not abate with the operation of the emetic, small draughts of mint-tea, with a sixth part of red Port added to it, may be given frequently ; together with some grateful and warm aromatic, cordial medicine, every four or six hours. The *Pulvis Contrayervæ simp.—comp. Confect. cardiac.—Raleigh. Spec. arom. Vinum croceum ; Aq. Menth. spirit. Aq. Alex. spirit. cum Aceto \** ; with others of the like nature, may be used for this purpose.

\* Vegetable acids, such as the juice of lemons, oranges, wood-sorrel, verjuice, vinegar in small doses, and the like as they are undoubtedly antiputrescents, may seem to be indicated ;

In this disease, it is at all times necessary to attend very carefully to the diarrhoea. For the most part it ceases with the vomiting, in less than twelve hours from the first attack : if it continues longer than this period, it is necessary to check it, otherwise it occasions great faintness, sinks the strength, and in the end produces very dangerous consequences. The aromatic cordials above mentioned, if they are given plentifully, commonly take off this symptom, as well as the vomiting ; but if they prove ineffectual, recourse must be had to astringents and anodynes, in proportion to the exigence of the case ; such as the *Confectio Fracastorii*, or *Elect. e Scordio*, dissolved in small cinnamon-water, and given *post singulas sedes*.

It is common for the redness, so often mentioned, to appear upon the skin, as these discharges abate : it has happened that this colour has gone off sometimes, and the patient has been brought into imminent danger,

cated ; but their proneness to encrease the discharge by stool, or profuse sweats, ought to render us very circumspect in using them.

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upon giving a mild cathartic: which circumstances, as they point out a close connection between them, indicate the use of a warm regimen, notwithstanding the heat and other symptoms might seem to forbid it.

A girl about 9 years old, of a slender make, but healthy and active, was seized with this disorder. The sickness and vomiting went off, and the redness of the skin appeared soon after: the apothecary who attended her, judging it an inflammatory case, as she complained of her throat, bled her, gave her a cooling purge the next day, and afterwards some nitrous draughts. A plentiful efflorescence which covered the face, neck, and arms, suddenly disappeared; a diarrhoea came on, she grew restless, faint, and insensible. In this condition I first saw her on the third day of the disease; she frequently sighed, her pulse was quick, small, and hard, without any remarkable colour upon her skin; and the swelling on each side the neck large: it was not possible to examine the *fauces*, as she lay in a comatous motionless condition, her stools and

‡      urine

urine coming away insensibly. A warm cordial mixture \* was frequently given her, upon which the diarrhoea soon abated; and the next day the efflorescence again appeared upon her face and arms. From this time she continued to recover, tho' slowly, and was for some time attended with a cough and hectic heat.

Another symptom, which requires our attention in the cure of this disease, is an excessive faintness: of this they generally complain soon after they are taken ill, and continue to do so, if sensible, till the distemper begins to abate: the urgency of this symptom seems to indicate the degree of danger: it is more or less violent, as the disease is mild or malignant; and an abatement of it may be looked upon as a pretty sure presage of recovery.

Warm aromatic and gently stimulating medicines, such as have been already men-

\* R. Aq. Alexit. simp.  $\overline{3}$ vj. Alexit. spir. cum acet.  $\overline{3}$ jfs. Conf. cardiac.  $\overline{5}$ fs. Pulv. Contray. simp.  $\overline{5}$ fs. Syr. Croc.  $\overline{3}$ fs. f. mixt. de qua capiat aegra coch. ij. tertia quaque hora.

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tioned, as the most effectual to suppress the vomiting, and check the looseness attending this disease, have likewise been found useful in removing this symptom: and though the degree of heat, and quickness of the pulse, would be enough to dissuade a person who has not seen the disease, from giving them in so liberal a manner as necessity requires; yet we are not to be governed so much by these symptoms, as by the faintness, depression of the pulse, and increase of putrescency in the *fauces*. One dram of the *Confectio Raleighana* has been given to a youth not quite 15 years of age, every four hours, which was soon followed by a sensible amendment, and the decrease of the patient's restlessness, faintness, and heat.

Some of the Italian physicians forbid the use of wine in the cure of this disease, and the warmth of this climate might perhaps make this caution necessary; but as it is a generous cordial, and at the same time antiseptic, it seems to be in no respect improper here; and, besides, in whey, I have allowed it to be given, freely, mixed with mint,  
baum,

baum, or sage-tea, barley-water, gruel, panada, fago, and the like; and alone, where the faintness has been excessive; the age, the former way of life, and the symptoms, affording the necessary rules as to quantity and kind. Chicken-water, or thin broth, may also be allowed, which is frequently very acceptable to the patient. And I don't remember to have observed so general and early an inclination after animal food, in any acute disease, as in this: for at a time when one would imagine, both from the condition of the *fauces*, and the degree of heat, that liquids would be the most acceptable, it is not uncommon to find children, who have this disease, extremely desirous of chicken, and chearfully complying with directions, in hopes of being gratified in this respect.

Blisters are likewise of use to relieve the faintness. At first I was in doubt, lest the flies, by their acrimony, should increase the putrescent disposition, and consequently aggravate the disorder they were intended to remove: but no such effect having appeared  
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from their use, I have ordered them to be applied, and I think with advantage, both to the usual parts, and to the neck on each side from below the ear almost to the clavicle, as occasion required \*.

The ulcers in the throat demand our early and constant attention, as a considerable loss of substance cannot here be suffered without immediate danger to life itself, or the most injurious consequences to the future action of the parts, if the patient survives.

Where the disease is of the mildest kind, a superficial ulceration only is observable; which may easily escape the notice of a person unacquainted with it. A thin, pale, white slough seems to accompany the next degree: a thick, opaque, or ash-coloured one is a further advance: and if the parts have a livid or black aspect, the case is still worse. These sloughs are not formed of any foreign matter spread upon the parts affected as a

\* It has been observed by several, that the discharge from blisters in this disease is in general both more copious at first, and continues longer than is usual in other cases.



crust or coat, but are real mortifications of the substance; since, whenever they come off, or are separated from the parts they cover, they leave an ulcer of a greater or less depth, as the sloughs were superficial or penetrating.

When the tendency to putrefaction is stopped, these sloughs in most cases come off spontaneously; or their separation may be promoted by suitable remedies and applications: but it seems by no means adviseable to attempt it by force, or to scrape them off with the fingers or instruments, as Severinus proposes; since the experiment has been tried, but with such unhappy consequences\*,

\* Si quis tamen vel digitis, vel aliquo instrumento levi ipsam (materiam albam) auferre tentasset, quamvis operatio haec fieret absque dolore, ea tamen ablata brevissimo tempore peribant aegrotantes; quod prae caeteris in Pétro Soprano genero meo observatum est, cui cum hujusmodi mortificatio apparuisset in suprema superficie dictarum glandularum faucium, et palati, ita ut videretur esse maximo respirationi et deglutationi impedimento, chirurgus existimans posse facillimo negotio a subiectis partibus eam separari solis digitis, levissime quidem eam abstulit; quae ablata, tantum abest ut juverit deglutationem aut respirationem, ut utraque potius actio laesa magis fuerit, unde brevissimo tempore miser, meo cum maximo dolore, mortem oppetiit; id quod etiam in aliis quamplurimis pueris saepius observavi, et praefertim

as are sufficient to discourage one from persisting in this method †.

In a case where I was concerned, previous to my being called in, a Surgeon had endeavoured to separate the sloughs by the assistance of his probe: he succeeded in his attempt without much difficulty; but was surprised to see the same parts covered the next day with thick, dark, ash-coloured sloughs, penetrating deep into the substance.

It is true, the sloughs have been sometimes scarified, from an apprehension that matter was lodged underneath them, without any manifest inconvenience; but as there are instances of fatal mortifications having ensued, it seems most prudent to decline the practice.

ferim in ejusdem Petri filiolo nepoti ex filia, quinque annorum, mihi carissima, qui post paucos dies eodem modo, quo pater, vitam cum morte mutavit. Cortes. Miscel. Med. p. 697.

† Quod si enim adhaerentem adhuc crustam avellere aggrediamur, ulcerationes magis in profundum procedunt, et inflammationes consequuntur, augentur dolores, et in ulcera serpentina proficiunt. Heredia, p. 109.

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From under these sloughs, and from every part of the ulcers which they cover, a thin corrosive *ichor* is discharged, so acrid as to excoriate the external parts upon which it is suffered to remain. This is sometimes observable in adults, when the parts above the *fauces* are affected; the *ichor* in these cases flows through the nostrils, and frequently raises pimples and small blisters on the skin of the upper lip; but it is most obvious in children, who often have this part, the corners of the mouth, and the cheek on which they commonly lie, blistered or excoriated.

It is probable, as hath been already hinted (p. 211.), that part of the same virulent matter, passing down the *oesophagus* into the stomach and intestines, acts upon them as it does upon the skin, when applied to it externally; it frets and corrodes the parts it touches, and produces that sickness, vomiting, purging, and faintness, which sometimes accompany this disease in different parts of its progress.

In children, and very young subjects, the symptoms arising from this cause are yet more dangerous:

dangerous: the natural softness and laxity of the parts liable to be affected, disposes them to suffer by it much more than adults: at the same time they are commonly alike incapable of promoting the discharge of this matter themselves, and of admitting assistance from others, being generally, if the distemper is not very mild, either comatous and stupid, or delirious and untractable. If gargles are injected, they either prevent them from reaching the seat of the disorder, by their tongues, or they swallow them, and the putrid taint of the ulcers, together; the mischief spreads beyond the power of art to restrain it; violent purgings ensue, or fatal haemorrhages from the penetrating gangrene. And to this, perhaps, it may in part be owing, that children suffer so much more from this kind of sore throat, than adults \*.

\* Heredia takes notice of the same thing, and gives it as a principal reason why so many infants and children suffered by this disease.

*Infantum et puerorum multitudo maxima perit, quia nec exspuere, nec excreare lentas et crustaceas materias possunt, et minus auxiliis obediunt. p. 100.*

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That this corrosive matter produces these effects is farther confirmed, by observing, that those whose throats are severely affected, if they have a plentiful discharge from the *fauces*, are seldom attended with sickness, vomiting, or excessive faintness; tho' after longer sleeps than ordinary, or a neglect of encouraging this evacuation, they have complained of sickness, and have had retchings come on: and in such cases, where there has been little or no discharge of this kind, the symptoms are commonly the most dangerous.

From hence it is obvious, that great advantages may be expected from the constant use of gently stimulating aromatic gargles; as they promote the discharge of the pituitous matter flowing to the *fauces*, and doubtless, with it, of some part of the corrosive fluid above mentioned: to which if we add antiseptics and detergents, in order to check the progress of the mortification, and cleanse the sordid ulcers it produces, every indication is provided for.



Where the disease is mild, the symptoms favourable, the sloughs superficial, or scarce perceptible, it may be sufficient to order a gargle of sage-tea; with a few rose-leaves added in the infusion; three or four spoonfuls of vinegar may be mixed with half a pint of the tea, and as much honey put to it as will leave it agreeably acid.

But where the symptoms are urgent, the tendency to putrefaction great, the sloughs large and thick, and the breath offensive, recourse must be had to more efficacious remedies: a composition like the following, varied only as the patient's age and the circumstances of the disease required, has in general been attended with very good effects. The proportion here given may be used for adults, and the more active parts lessened for younger subjects.

R *Decoct. Pectoral.* ℥xij. *cui inter coquendum add. Rad. Contrayerv. contus.* ℥ss. *Liquori colato admisce Acet. Vin. Alb.* ℥ij. *Tinct. Myr.* ℥j. *Mel. opt.* ʒvj. *f. Gar-garisma.*

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As the parts about the gullet are frequently so much affected, as to render it painful or impracticable for the sick themselves to make use of the gargle so freely as they ought, it is commonly ordered, that a few spoonfuls of this liquor, made somewhat warm, should be very often injected into the *fauces* with a small syringe; and especially before the patient swallows any thing, in order to wash off as much as possible the putrid *fordes* adhering to the ulcers, and prevent it from passing into the stomach and bowels \*. In young subjects this method is the more necessary, as they don't always know how to manage a gargle to any purpose, did the foreness of the parts permit them to do it §.

As so much depends upon the frequent use of gargles, or rather of injections, a strict

\* The same caution was given by Heredia, and almost in the same terms.----Cujusque rei deglutitionem praecedat excrementorum oris excreatio, deterfio, ne lotione venenosa excrementa cum rebus deglutiendis ferantur ad viscera. p. 109.

§ ---- cum pueri nequeant gargarismatis uti, injiciantur cum syringa. Idem, ibid.

attention to this affair can scarcely be too strongly enjoined to those who have the care of the sick committed to them; since an assiduous repetition of these lotions not only promotes a discharge from the glands of the throat, which is probably of great use†, but retards the progress of the ulcers, by washing off the putrefactive corroding *virus*, and prevents a large train of very dangerous symptoms (see p. 239, 240.); and has therefore been strenuously insisted on by several writers, by Mercatus especially ‡.

If the sloughs are large, and cast off slowly, they may be touched with *Mel Egyptiacum*, by means of an armed probe; or if the condition of the *fauces* is such, that this cannot conveniently be done, a spoonful of the following mixture may be injected, and retained

† Heredia, after having observed, that no evacuations by stools or sweat were of use in this disease, admits that some advantages may be expected from this discharge. Est autem aliqua spes in frequentī exspuitione, quando crassa et glutinosa excreatur. p. 100.

‡ Cavendum est diligenter, ne sic affecti deglutiant propriam salivam, quinimo ora puerorum diligentissime sunt abluenda. Mercat. p. 137.

in the throat, as long as the patient can endure it; the parts may then be washed two or three times with the gargle alone.

℞ *Gargarism. præsript.* ℥ij. *Mel. Ægypt.*  
3j. *m.*

By the constant and regular use of these applications, if the patient is kept warm, and the method of treating him in other respects is observed, agreeable to what has been mentioned above, it seldom happens but that the febrile symptoms disappear, the sloughs come off, and the ulcers are disposed to heal in a few days; unless it be where mismanagement at first, malignity of the infection, or an unfavourable constitution, have one or all contributed to increase the disease, and to render its consequences more lasting and mischievous.

What effects improper treatment produces in this case has already been observed. With regard to the matter of contagion, or the nature of that cause which so suddenly brings on such a train of symptoms as hath been described,

described, little can be said with any degree of certainty: thus much, however, seems to be true in fact, that in some cases this disease appears to be of so mild a nature, and so benign, as to require but little assistance from art: persons even recover from it under the disadvantages of unskilful and injurious management; whilst in others, the progress of the symptoms is so rapid, and the tendency to corruption so strong, that nothing seems able to oppose it. Just as it happens in the small-pox; the benign and distinct sort bears ill treatment without injury; in the malignant flux kind, the utmost art and experience are too often insufficient to conduct the distemper to a happy issue. Whether this diversity in the Sore Throat we are speaking of is owing to a difference of constitutions, or of seasons, to the different quality or quantity of the contagion, or the manner of receiving it; or whether there are in reality distinct species of it; may perhaps hereafter be more certainly determined.



With respect to constitution, it may be further observed, that, in soft, lax, leucophlegmatic habits, and languid, inactive dispositions, every thing else being equal, the disease seems to proceed more slowly, to go off more irregularly, and to leave behind it more lasting effects. In some persons of the temperament described, though the fever has grown less, and all the symptoms abated in four or five days, yet the sloughs in the throat have continued almost a week after; whilst in the opposite constitution, though the disease has been much more acute, yet the symptoms have no sooner abated, than the sloughs have cast off, and the ulcers healed of their own accord.

A copious hæmorrhage from the nose, mouth, or ears, the last especially, coming on after the disease has continued three or four days, or longer, is a dangerous *phænomenon*: for, at this time of the distemper, it most probably proceeds from the branch of an artery destroyed by the mortification, and laid open by the separation of the slough, as  
hath

hath been already observed. If the vessel is therefore large, the bleeding may prove fatal to the patient in a very short time; or if he escapes for the present, the loss of a considerable quantity of blood at this time of the disease will occasion various ill consequences.

It is therefore absolutely necessary to endeavour to stop this discharge with all the expedition possible. If the patient is costive, it will be of use to procure relief in this respect, by clysters or suppositories, as soon as can be done: to apply vinegar, by means of tents, or otherwise, as near to the orifice of the vessel as we can: to convey the steam of it into the *fauces* and nostrils plentifully, and to keep the patient in a sitting posture, or his head raised as high as may be, and his upper parts moderately cool: if these methods do not immediately take effect, recourse must be had to more efficacious ones, amongst which we may rank the *bark* and *opium*.

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It is not uncommon for hectic heats, night-sweats, want of appetite, and dejection of spirits, to attend those a considerable time, who have had the disease in a severe manner. Fresh air, asses milk, and other usual means of recovering the wasted strength, in a short time restore to such invalids their pristine vigour.

Having thus related the most material circumstances that have occurred to me in respect to the symptoms, progress, and event of this distemper, the *juvantia*, *lædientia*, and the accidents chiefly to be regarded in its cure, in such a manner as I hope will enable those who have not seen or known it, to distinguish it from a *common Sore Throat*, and to treat it with some degree of propriety and success when it occurs, I shall conclude with observing,

1. That the *Sore Throat attended with Ulcers* seems to be accompanied with a strong disposition to putrefaction, which affects the habit in general, but the *fauces*,

ces, and the parts contiguous, in particular. And it seems not unreasonable to suppose,

2. That the cause of this tendency is a putrid *virus*, or *miasma sui generis*, introduced into the habit by contagion; principally by means of the breath of the person affected.
3. That this *virus*, or contagious matter, produces effects more or less pernicious, according to the quantity and nature of the infection, and as the subject is disposed to receive or suffer by it.
4. That putrefactive and malignant diseases, in common, admit of the most sensible and secure relief, from discharges of the peccant matter, either upon the skin in general, or on particular parts of the body.
5. That the redness, and cutaneous efflorescence, in the present case, may be considered



considered as an eruption of the like nature, and therefore to be promoted by such methods as have proved successful in similar diseases.

6. That a cordial, alexipharmac, warm regimen has been found by experience to be of the most use in such cases; and that bleeding, purging, antiphlogistics, liberally employed, either retard or wholly prevent these discharges.

Therefore, as to expel the morbid matter (3) seems to be the design of Nature, to promote this design by the measures that are approved by experience in analogous disorders, is the duty of the Physician.



VIII. *Of the Use of the Cortex Peruvianus,  
in Scrofulous Disorders* \*.

AS I do not remember to have met with many instances recorded of the effects of the Bark in Scrofulous Disorders, I take the liberty to offer the following observations on this subject to the Society, and submit them intirely to their correction and disposal.

About the year 1744, a poor woman brought her child, a boy between twelve and fourteen months old, and requested my assistance for a disorder in its eyes, that seemed to threaten total blindness. The eyelids were so swelled, and so exquisitely tender, that it was with difficulty I obtained the slightest view of one eye, the coats whereof seemed only to be affected: the lips were likewise much swelled; the glands about

\* From the Medical Observations and Enquiries, vol. i.

the neck enlarged ; and the whole aspect denoted a scrofulous tendency.

I ordered a spoonful of a decoction of the Bark to be given three times a day, adding to each dose from six to ten drops of the *bals. polychrest.* or so many as might be sufficient to procure a laxative stool every day, the child being naturally of a costive habit.

The child was ordered to live upon light broth, and such tender animal food as the poor woman could procure ; and to be kept from much fruit and vegetables.

By this method, in about a fortnight, he was able to bear the light ; and, in a month, I had the satisfaction to see him perfectly recovered.

The success of this experiment induced me to repeat it as occasion offered. Not long after, a boy was brought to me, about seven years old, of a thin spare habit, pale sickly look, with the eyelids so much swelled, and  
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the eyes so tender, as to be incapable of bearing the least glimmering of light; and his face was here and there crusted with moist scabs, which had almost covered his chin.

I ordered a decoction of the Bark to be given, to the quantity of a spoonful and a half, three times a day; and a small pill, with one grain of calomel in a little conserve of roses, every other night.

This process was continued about ten days, when he was brought to me again: the eyes were less tender, and his face was somewhat cleared of the scabs: but as the season was then growing colder, the decoction was continued alone about a month, when the child had recovered better health than he had enjoyed during the preceding year: he could bear any light without pain, the scabs had disappeared, and the glands were become small and softer.

The spring following, his eyes again growing tender and painful, and other symptoms  
appearing

appearing of his former indisposition, the same remedies were repeated, and produced the same effects as before; and that he might be secured from the like returns for the future, I advised that he should take the decoction and pills for ten days or a fortnight, once in three months, for about a year. This advice was punctually complied with, and he remained free from any symptom of the disorder about four years, from the last repetition of the medicines, when he was seized with the confluent small-pox, at that time very rife and fatal, and died of the second fever.

In the year 1750, a poor woman brought her child, somewhat more than a year old, affected with a very painful scrofulous ophthalmy, to Dr. Clephane and me, then at Scarborough. A method like the former was directed, and we had the satisfaction to find, ere we left the place, that the child had reaped from it all the benefit we could wish.

A young



A young gentleman, about seventeen, of a thin habit, in an employment that admitted but of little exercise, accustomed to a plentiful table, and deriving from his parents a scrofulous taint, desired my assistance for a large indurated parotid.

I directed a two-ounce draught of the decoction of the bark; with about forty drops of the *tinct. guaiac. volatilis* to be taken twice a day, and to be continued during two months.

By the use of this remedy he grew strong and more florid: the tumour did not increase, but felt somewhat softer than at first. Having thus stopped its progress; I advised him to desist about two months, and then to repeat the same remedy: but no considerable benefit accrued from this second course; the tumour, though less than at first, was still observable.

Things remained in this situation about a year, when his chin and upper lip began to be covered with a thick yellow scab, moist  
S and



and itching. This was both troublesome and disagreeable. I had recourse again to the Bark in various forms, but without the advantage I hoped for: it seemed to stop the progress of the distemper, but did not cure it. A course of *calomel* and *sulphur aurat. antimon.* in small doses, viz. a grain of each every night, gradually cleared his face of this disagreeable guest; but it soon broke out again. Bathing in the sea, and the use of Scarborough water upon the spot, at length extirpated this cutaneous disorder. The parotid however still continued swelled; but as he now began to acquire a more manly habit, it ceased to be conspicuous.

In this case I had just reason to apprehend that the Bark put a stop to the tumour's increase, and rather softened it; but this was all: and I have met with many other cases, in which the Bark has had the like effects; checked the speedy progress of the disease, restored a better state of health in various respects, and laid a proper foundation to proceed upon, in attempting a cure by other methods.

methods. I have likewise made use of the Bark in scrofulous ulcers, but hitherto not with the success one might expect.

I have at present under my care a boy about fourteen, a girl about ten years of age, and a third about seven of a very delicate habit. The two first are poor, and a charge to their parents, from a soreness in their eyes, that renders them incapable of bearing the light, or doing any thing towards their support. The last is obliged to live in constant darkness, though the child of persons in better condition. They have been in the course described above several weeks, and are daily recovering.

Sometimes I give the *calomel* pills above mentioned with the decoction, especially if any symptoms of the worms appear, or if the case is attended with costiveness, and a discharge of acrimonious moisture on any part of the skin. But the Bark is the remedy I think chiefly to be depended on; and the dose should be as much as the patient

can be prevailed upon to take; providing with equal care against costiveness and its opposite.

As I imagine the result of repeated observations will be more agreeable to your plan than a detail of particular cases, I shall conclude this narrative with remarking, that I have given the Bark, in cases similar to those above described, to children of different ages, to adults of both sexes, and in various conditions of life; and have found, that it may not only be given with great safety, but to manifest advantage, in many scrofulous complaints: inveterate ophthalmies generally yield to it: incipient glandular tumours are very frequently resolved, and their farther progress stopped: swelled lips, cutaneous blotches arising from the like cause, are healed, and the tendency to a strumous habit corrected, by a proper use of the *Cortex Peruvianus*.

There are few, I believe, who are conversant in the practice of physic, who do not find

find occasion, at one time or other, to be dissatisfied with the several methods and medicines hitherto recommended in the cure of the disorders I have been mentioning. A swelled lip, a blood-shot eye, will frequently baffle a course of efficacious remedies under prudent directions. When the disease is farther advanced, it grows more obstinate; the greater the number of parts that are affected, the more the difficulties are increased. We have indeed a copious choice of alteratives handed down to us, all which, perhaps, have been, in particular instances, beneficial; but nevertheless they too often disappoint us. Most of the remedies proposed for this distemper, are such as seem recommended more with a view to alter the juices, than immediately to affect the solids; but we hitherto know much less of the nature of fluids circulating in an animal body, or how to alter them, than we do how to apply such medicines as affect the solids, and, in consequence thereof, produce certain alterations in the fluids.

It is not safe to infer, that the various kinds of salts have the same effects upon animal juices, whether taken from the animal, or circulating in their proper canals. Experience does not always warrant such conclusions. The digestive powers of the stomach, by the same means that they convert different sorts of aliments, some of them sufficiently acrid, into a mild and milky fluid, seem able to deprive the most pungent salts of great part of their activity. And this circumstance alone, in my opinion, renders a dependance upon one part of the *Materia Medica*, on which many pleasing expectations have been formed, much to be suspected; I mean the different kinds of salts recommended in strumous disorders. It is very certain that the effects of the acid and the alkaline greatly depend on the present disposition of the juices in the stomach and first passages. The neutral ones are not altogether exempt from the same influence; and should they pass unaltered into the blood, we cannot ascertain their effects upon it: and could we even do this, can it reasonably be supposed, that a few drams of



any kind of salt, however active, and properly adapted, mixed with so many pounds of blood, and other animal juices, could produce the effect we wish for, or be able to extirpate a disease, as the ancients expressed themselves, *totius substantiae*, and fixed in the most inaccessible parts of the animal oecconomy? The chance therefore of curing this distemper, by means of remedies designed to act on the fluids alone, is but little. It may indeed be urged, that salts, as stimulants, affect the solids as well as fluids; and that they may do so is granted: but in this case their operation is much confined; for it may be doubted, whether their *stimulus* extends beyond the first passages.

The aspect, habit, and age of strumous persons; the nature of their tumours in respect to their formation, progress, and issue, seem to indicate a general laxity of the solids, as well as great viscosity of the fluids, especially those contained in some particular series of vessels; which causes, when combined, proceed with a slow but constant efficacy to produce the worst of mischiefs, un-

less prevented by the interposition of some favourable change in the non-naturals, or by medical assistance.

It may indeed be disputed, whether the solids being first relaxed, the fluids do not become viscid, and unfit for their office, in consequence of this relaxation; or whether the juices are not first vitiated, and from them a laxity of the solids is inevitably derived. Cases may happen in which one or the other of these suppositions may, with great probability, be admitted; but in either case, since it seems beyond dispute, that the power of affecting the solids is more under our command than that of altering the fluids, it is reasonable to direct our applications in the cure of this distemper more immediately to the solids, as, without their assistance, the fluids must still remain in a morbid condition.

All internal remedies given by the mouth, and designed to act beyond the stomach, must be exposed to the efficacy of the powers by which digestion is performed: it is therefore

fore incumbent upon the prescriber to consider how far the virtues of the medicines he gives, are liable to be affected in their transit to the parts where he is desirous they should act. Most of the saline remedies, as hath already been observed, are liable to great alterations in the stomach. Alcaline and acid salts may become neutral and saponaceous; neutral ones may be diluted, and disposed to run off immediately by the emunctories, and all of them contribute as little towards eradicating this distemper, as they do towards effecting the change we call digestion; a change whereby substances very remote from it are converted into an animal nature,

And it seems to me, that in the cure of all chronic complaints, however distant their seat may be from the stomach, those will have the greatest success, who attentively consider the present state of this organ; who remove every obstruction to its performing the office of digestion with ease, constancy, and expedition. For if digestion is well performed, the chyle is proper; the  
blood

blood produced from this chyle is natural; the secretions, nutriment, and excretions, will be regular; health, strength, and activity, ensue; diseases vanish. If digestion languish, the contrary happens, in spite of the best specifics, unless one part of their virtues be to restore the injured faculties of digestion to their pristine and natural state.

And from the most attentive consideration of the cure of many chronic complaints, and the most unprejudiced disquisition what share the medicines applied have had in effecting such cures; by much the greatest part of these distempers seem to have been removed, rather in consequence of the medicines given having had a certain effect on the stomach, and thereby enabling nature to do her own business, than by any specific operations on the particular seat of the distemper.

If the immediate cause of intermittents does not reside always in the stomach and first passages, it often does undoubtedly. An emetic sometimes cures it, bitters of all kinds

kinds often; astringents likewise: and, in a word, whatever has a power of assisting digestion, has, at one time or other, been recommended in the cure of agues. The Bark enjoys a degree of bitterness and astringency, that few others are possessed of in the same proportion. Some drugs are more bitter, but with less astringency; others are more astringent, but less bitter. There are many cases that yield to astringents, upon which bitters have no effect. There are others, that chamomile flowers, wormwood, gentian, and the like, will often cure, in which astringents are of no use. But all these give way to the Bark, if the obstacles to its efficacy are once removed.

Strumous diseases are known to affect the glandular parts of the body particularly: they have been judged to proceed from obstructions of these parts; and it has likewise been the opinion of some, that, in all glandular obstructions, the Bark was an improper and injurious remedy.

It is well known how great prepossessions were raised against the Bark, soon after its discovery;



covery; so that those who were its greatest advocates, and, from experience, had the weightiest reasons to be so, could not altogether divest themselves of many apprehensions concerning it.

Sydenham imagines it capable of producing rheumatisms. It has been found, since his time, to be an effectual remedy in this disease, under certain circumstances. Those who are subject to intermittents, are frequently liable to rheumatisms. Sydenham did not observe, that a transition from one to the other, was easy and natural. The state of the blood, in both cases, is nearly the same; the colour of the urine, regular exacerbations of pain, going off in profuse sweats, and many other particulars, are similar in both. Had more of the Bark been given, no such rheumatism had ensued: had the Bark been given before the rheumatism was fully formed, the Bark would have prevented it: had it been given when the pains remitted, so as to form a manifest apyrexia, the rheumatism would most probably have been cured.

The vulgar, at that time, took the advantage of such circumstances to strengthen their prejudices against this remedy. Nothing was more common at that time, and nothing more firmly believed by many now, than that the Bark produces "pains in the bones," that is, rheumatic pains, which however were not owing to its use, but existed, because sufficient quantities of it had not been given.

Sydenham was not the only eminent person of the faculty who entertained such unjust prejudices against this remedy: the great Boerhaave, who did much in the theory of physic, in respect to separating truth from falsehood; certainty from hypothesis; yet in practice submitted to the fashion of his country in too many instances. An unconquerable dread of the Bark was one of these: he saw many chronic complaints, wherein the Bark had been given, and attributed them, too readily, and from opinion, rather than experience, to the use of this drug; though probably those complaints arose from its not having been given  
in

in sufficient quantities. This induced him to forbid the Bark to many British students at Leyden affected with agues, till those very evils had befallen them, which he apprehended from the Bark; and some of them, to my knowledge, fell a sacrifice to this unhappy prejudice, which seems in part to have proceeded from the following circumstance.

The Bark commonly sold in Holland, is not so good as that which we keep in the shops in England; for whatever is unsaleable here, will find a market in Holland; part of which no doubt is consumed there; and from hence might arise many inconveniencies sufficient to discourage the professor. If a certain quantity of good Bark is necessary to take off an intermittent, and a much smaller quantity is given, and the kind greatly defective in point of efficacy, it is very certain, that little benefit can be derived from it. The violence of the paroxysms may perhaps thereby be moderated, and the aspect of the distemper changed, though the disease itself may still remain, and be followed  
by

by a train of obstinate complaints, not proceeding from the use of the Bark, but merely from its not being good, and not being given in sufficient quantities.

The first attempts I made in the cure of some scrofulous complaints, by the Bark, afforded me sufficient encouragement to proceed: and I have now the satisfaction to know many young people, of both sexes, free from any appearance of this disease, who, in their infancy, had been infested with very painful ophthalmies, swelled lips, and the like complaints, in spite of many efficacious remedies which had been applied.

It will not however succeed in all cases; but there are few in which a trial can be attended with much detriment. I have never known it avail much, where the bones are affected, nor where the scrofulous tumour is so situated, as to be attended with much pain, as in the joints, or under the membraneous covers of the muscles; for when it attacks these parts, the *periosteum* seldom escapes

escapes without some injury, in which case the bone will of course be likewise injured.

Here the Bark is of no effect: instead of lessening, it rather adds to the fever that accompanies these circumstances; and, if it does not increase the force of the mischief, it seems at least to hasten its progress.

I commonly make use of a decoction like the following, as a form in which a sufficient quantity may be given, with the least disgust.

*Rx. Pulv. Cort. Per. ℥i. coque in aq. purae lb. ii. ad lb. i. sub finem addendo rad. glycyrrh. incis. ℥ss. Colaturae adde aq. nuc. M. ℥ii. M. capiat coch. ii, iii, vel iv. cum tinct. guaiac. vol. gut. x, xx, ad lx usque, bis terve quotidie.*

The powder soon becomes extremely disagreeable to very young patients: and the extract, I think, is not so much to be depended upon, as may have been imagined. In making the extract, it is exposed to so much heat, as must have some effect upon its



its virtues, and perhaps not to their advantage: and in administering it, if great care is not taken to mix it intimately with a proper vehicle, or some very soluble substance, in weak bowels it often purges, and not only disappoints the prescriber, but injures the patient. A small quantity of the *Cortex Winteranus* added, gives the medicine a grateful warmth, and renders a quantity of compound water less necessary. And a little liquorice, a few raisins, gum arabic, or the like, added to the decoction before it is taken from the fire, by making the liquor viscid, enables it to suspend more of the fine particles of the Bark, and thereby improves the efficacy of the medicine, and, at the same time, renders it less disagreeable.

IX. *A Letter to the MEDICAL SOCIETY,  
concerning an Astringent Gum brought  
from Africa* \*.

I N hopes that some of your correspondents may have it in their power to procure us a drug, which, from a few tryals already made of it, promises great advantage to the public; I take the liberty to send the following description and account of it.

It is a hard brittle gum, of a deep red or almost black colour, and opaque; except the very minute fragments of it, which appear like bits of garnet, red and transparent.

It has no smell; but, applied to the tongue, it soon discovers a strong, but grateful astringency; and great part of it dissolves readily in the mouth, with somewhat of a mucilaginous sweetness, joined with its stypticity. When it is coarsely powdered, and thrown into water, about five or six parts in seven, as near as I can guess, soon dis-

\* From Medical Observations and Inquiries, vol. i.

solve, and communicate a deep red colour, and a strong astringent taste to the water: most of what remains undissolved appears to be resinous. This gum differs from the red lumps of the common gum Senegal, in being much more brittle; and from the *sanguis draconis* of the shops, in dissolving in water; and from both, in having so remarkable a stypticity when tasted.

Its external appearance, indeed, is so much like that of the genuine or unmanufactured *dragon's blood*, that a good judge may easily be deceived thereby; but its astringent taste and solubility in water manifest an essential difference.

I have had specimens sent me of an opaque reddish gum, but seemingly the produce of a very different tree, as it does not dissolve so readily in water as the former, and its taste is bitter and austere.

The first time I had any intimation of the gum I have been describing, was in a consultation with the late Dr. Oldfield, on ac-

count of an obstinate chronical *diarrhoea*, in which several efficacious medicines had been used in vain. On this occasion the Doctor one day mentioned the good effects he had met with in some such cases from a gum which he called the *true gum Senegal*, and described it to be of a deep red colour, a sweetish astringent taste, and brittle.

As I was at that time intent upon collecting and examining whatever had relation to the *Materia Medica*, I enquired for such a gum amongst the most considerable dealers and importers, but met with nothing that answered the Doctor's description.

A few years after this, in my return from Scarborough, I called upon an eminent druggist at York, who, amongst other curious parcels of drugs, shewed me the gum above described, for some of the finest dragon's blood, or *sanguis draconis off.* he had ever seen.

Upon tasting it, I soon discovered it was very different from any kind of dragon's blood

blood yet known, and indeed that it ought not to be ranged under that name, as it was, for the most part, aqueous, manifestly astringent, and mucilaginous; from which circumstances, and its external appearance, I judged it was the gum that Dr. Oldfield had described to me under the title of the *true gum Senegal*; though I think there is good reason to object to this appellation, as the little we have yet received comes principally from the river Gambia, and the common gum Senegal has been in possession of that name, so far as appears to me, from its first discovery\*.

The Gentleman who shewed me this drug, informed me, he had purchased it on board a Guinea ship *at Hull*: the whole parcel but amounted to a few pounds; all which he bought, and sold to the most curious of his customers, as a rare sort of the true dragon's blood.

\* If a name was to be given to the drug in question, it may not be improper to call it, *Gummi Rubrum astringens Gambiense*.



This information induced me to look into the books of some of the later African travellers, in one of which, viz. *Moor's Travels into the Inland Parts of Africa*, we have the following accounts of it. In a letter of instructions from the Governor of James's fort, in the mouth of the river Gambia, to our author at Brucoe, a factory up this river, dated May 27, 1733, is the following paragraph, p. 113, edit. 2d.

“ There is a red liquor that bleeds plentifully from the bark of a tree called \* *pau de sangue*, upon the incision, and in little time hardens to the consistence of gum, which is of great value : and therefore you are desired to use your utmost to procure large quantities of it.”

In reply to this, our author writes, the next month, to the Governor as follows.

“ I have sent a piece of gum, which I believe was taken from the *pau de sangue* ;

\* The word *pau* seems to be a corruption of the Portuguese *palo*, signifying wood.

“ I desire you will please to examine it, and  
 “ let me know if it is the right sort; be-  
 “ cause, if it is, I will do my utmost to  
 “ procure large quantities of it.” And gives  
 this further account of it at p. 148. “ I  
 “ had always the utmost regard to all  
 “ their (the Directors) orders, and there-  
 “ fore applied myself to inquire after any  
 “ new kind of goods that could be had, par-  
 “ ticularly gum. The same having been  
 “ repeated to me by Mr. Hull (Governor of  
 “ James fort) I sent him a sample from  
 “ Brucoe, as I mentioned before, which  
 “ proved gum dragon. I strove to get  
 “ more of that kind, but, it being a new  
 “ thing, the natives could not be prevailed  
 “ upon to follow it, so as to bring in any  
 “ quantities; for they would bring me in  
 “ all kinds of gum, ten or twelve pounds  
 “ at a time, which I picked, and did not  
 “ find, perhaps, above two pounds of  
 “ gum dragon in that quantity: the rest  
 “ was like gum Senegal, but not so good.

“ Gum dragon comes out of a tree (adds  
 “ our author) called *pau de sangue*, which

“ has a very rough bark ; upon wounding  
 “ of it, it sweats out in drops like blood ;  
 “ which joining together, and being dried  
 “ by the sun, congeal into lumps. I have  
 “ had some as large as pullets eggs.”

Perhaps it may be mentioned by other writers ; but this account I think sufficient to direct any person, into whose hands your collection may come, and who may have occasion to traffic in that part of the world, to make proper inquiries after it.

You will observe, from the instructions given to our author, that at least some expectations had been formed of its usefulness ; and indeed, from the tryals that have been made, from its sensible qualities, and Dr. Oldfield's experience, I cannot but think it an article worth inquiring after, as it may in time become a valuable addition to the *Materia Medica*, as well as of some little benefit in commerce, and perhaps in colouring likewise.

The

The distempers in which this drug seems to promise some advantage, are in particular, habitual *diarrhœas*, *fluor albus*, immoderate menstrual discharges; and, in general, all such diseases as proceed from laxity and acrimony.

X. *Expe-*

X. *Experiments on mixing Oils, resinous and pinguious Substances with Water, by means of a vegetable Mucilage: In a Letter from Mr. James Bogle French, Apothecary in London, to Dr. John Fothergill. With Remarks by the same\*.*

*Wood-street, January 18, 1757.*

S I R,

**I** MADE the experiments you desired, and I own with a success that exceeded my expectations. I may venture to assure you, they have been performed with so much accuracy, that, I believe, you may safely rely on any inferences to be made from them.

I am, with great esteem,

Sir,

your most obliged,

humble servant,

JAMES BOGLE FRENCH.

\* From the Medical Observations and Inquiries, Vol. i.



*Experiments on mixing Oil and Water by means of a Mucilage.*

**T**HE mucilage I first made tryal of was the following :

I dissolved four ounces of clean gum Arabic in eight ounces of New River water, which formed a mucilage of the consistence of a thick syrup.

EXPERIMENT I.

To two drachms of this mucilage, I put half an ounce of olive oil, one ounce of water. By agitation, the mixture assumed the appearance of an emulsion, and continued so, after standing about three or four minutes, when the oil and water began to separate.

EXPERIMENT II.

I put the same quantity of oil and water to half an ounce of the mucilage. This mixture likewise, by agitation, soon became  
like

like an emulsion, and remained so as long as the former.

### EXPERIMENT III.

I tried the same experiments with a like quantity of oil of almonds. A perfect uniform emulsion was produced; but, on standing three or four minutes, a separation ensued.

### EXPERIMENT IV.

Two drachms of oil of almonds, half an ounce of the mucilage, and two ounces of water, were put together; these, by shaking, soon had the appearance of an uniform emulsion; though, on standing, they separated as in the former experiments.

### EXPERIMENT V.

I put half a drachm of the powder of gum Arabic to the same ingredients as in Experiment I: and found, that, by means of a somewhat longer agitation, the like union was obtained; and this was also more lasting. Of the several oils made use of in the experi-

experiment, I think the oil of almonds unites the most speedily, and remains united in the form of an emulsion, much longer than any of the others.

#### EXPERIMENT VI.

To one drachm of symple syrup, and one drachm of the mucilage, I put half an ounce of olive oil, two drachms of proof spirit, and one ounce of water. These, by a short agitation, produced a very uniform emulsion, and retained this appearance several minutes.

#### EXPERIMENT VII.

The same ingredients without the syrup, in the same proportions, shook together an equal time, did not afford so equable a mixture, and a separation sooner ensued.

#### EXPERIMENT VIII.

To one drachm of oil of almonds, I put two drachms of honey, and one ounce of water. These, by agitation, were seemingly united; but soon parted upon standing.

EXPERI-

## EXPERIMENT IX.

Instead of the mucilage, I made tryal of some of the more viscid syrups, but none of them succeeded so well as the mucilage: the syrup of marshmallows answered the best; though this but indifferently, and not without labour.

## EXPERIMENT X.

One scruple of the powder of gum Arabic, with one drachm of *balsam. Peru. capivi*, and *balsam. guaiacin.* two drachms of proof spirit, and one ounce of water, unite easily by agitation. The *balsam guaiacin.* by this means affords a mixture of a fine blue colour, lastingly uniform; with the *balsam. Peru.* it did not long continue mixed, tho', on shaking, it reassumed a good appearance.

## EXPERIMENT XI.

To one drachm of *balsam. capivi*, was put one drachm of the mucilage of gum Arabic, and one ounce of water. These, by agitation, presently formed a neat smooth draught, tho' the parts separated a little upon standing.

*Experi-*

*Experiments on mixing Oils, &c. by Attrition.*

## EXPERIMENT XII.

To one drachm of the mucilage of gum Arabic, I put two drachms of olive oil, and one ounce of water. These, by moderate attrition in a mortar, formed a neat emulsion, and continued perfectly mixed many days.

## EXPERIMENT XIII.

Oil of almonds and linseed, in the same proportions, treated as in the former experiment, made as perfect an emulsion, and kept united in the same manner.

## EXPERIMENT XIV.

I varied the proportions of mucilage and oil, but found the mucilage would not keep more than double its quantity of oil, united with water, any considerable time.

## EXPERIMENT XV.

A drachm of mucilage, and a drachm of *balsam. capivi*, being first well rubbed together,



gether, and an ounce of water added, formed an homogeneous milky liquor, which remained intimately mixed many days.

### E X P E R I M E N T XVI.

The same quantity of yolk of egg, mixed the balsam and water as speedily, and the mixture remained united as long as the former; but the taste of this was more unpleasant.

### E X P E R I M E N T XVII.

A scruple of the mucilage mixed half a drachm of *bals. Peru.* with an ounce of water, as perfectly and expeditiously as a like quantity of the *vitel. ovi*, and covered the taste of the balsam much better, though it parted sooner from the mucilage than the *vitel. ovi*, when thus mixed in equal quantities.

### E X P E R I M E N T XVIII.

Balsam of Gilead, the thinner Straßburgh turpentine, the fine liquid resin of late years brought from Newfoundland and Nova Scotia, commonly called *balsamum Annapolitanum*,

*num*, treated in the same manner, united with water as readily, by the means of the mucilage, as when the *vitel. ovi* is used, and the taste at the same time was better.

### EXPERIMENT XIX.

To half a drachm of mucilage of gum Arabic, I put one drachm of *balsam. guaiac.* one drachm of proof spirit, and one ounce and a half of water, which, by attrition, made a very smooth draught, and did not separate; that by agitation (Exp. X.) was of a deeper blue colour; perhaps this was owing to the parts not being so perfectly divided; but both succeeded well.

### EXPERIMENT XX.

I took one scruple of *gum guaiac.* in powder, one scruple of mucilage, and one ounce and a half of water, which I rubbed carefully in a marble mortar; I did the same with the *vitel. ovi*; and, on standing some days, it appeared, that the gum was best suspended by the mucilage.

## E X P E R I M E N T   XXI.

*Gum benzoin* dissolved almost entirely by this management, and continued perfectly mixed with the water a considerable time.

## E X P E R I M E N T   XXII.

One scruple of *balsam. Tolu*, one scruple of the mucilage, with the same proportion of the other ingredients as in the former experiment, succeeded rather better, and made a neat draught full of the flavour of the balsam.

## E X P E R I M E N T   XXIII.

Myrrh half a drachm, mucilage of *gum Arabic* one drachm, first rubbed together, and then mixed with one ounce and half of water, formed a smooth uniform mixture, which continued equally united several days, when a small part subsided, but, upon shaking the mixture, soon resumed its former appearance.

## E X P E R I M E N T   XXIV.

The same quantity of myrrh, readily dissolved, by attrition, in the same quantity of  
water,

water, without the mucilage, but the different parts soon separated.

### EXPERIMENT XXV.

Half a drachm of the common styrax, treated as the myrrh, (Exp. XXIV.) so far dissolved, as to communicate a strong but fine flavour to the water.

### EXPERIMENT XXVI.

I took five grains of camphire, with a scruple of mucilage of *gum Arabic*, and an ounce and half of water, and it formed a very agreeable draught, which, on standing some nights, separated but very little.

### EXPERIMENT XXVII.

I melted bees-wax in spirits of wine upon the fire, and filtered off the spirit: half a drachm of the wax so treated, rubbed with a drachm of mucilage, mixed with an ounce and a half of water, so as to appear like an uniform emulsion; but this requires some labour: the wax soon swims at top, but easily mixes again by agitation.

## EXPERIMENT XXVIII.

A scruple of *sperma ceti*, rubbed with an equal quantity of mucilage, makes an elegant draught: but more labour is here required than in the common solution with yolk of egg; the mixture continues, however, much longer homogeneous, the *sperma ceti* appearing only like a cloud on the top of the phial some days after; but, on agitation, becomes perfectly smooth, and its taste as little rancid as when the mixture was fresh made.

## EXPERIMENT XXIX.

Four grains of musk, one scruple of the mucilage of *gum Arabic*, one ounce and half of water, of spirituous water and simple syrup, of each a drachm, with very little labour, form an agreeable draught; which appeared uniform, and continued so for some time, when the musk subsided a little, but, by a slight agitation, soon resumed its first uniform appearance.



## EXPERIMENT XXX.

I took one scruple of *balsam. sulph.* with a scruple of mucilage and one ounce and half of water; and this also mixed agreeably, and separated but little on standing some time: the taste was likewise less offensive than might have been expected.

## EXPERIMENT XXXI.

With ten drops of oil of cloves, one ounce of water, and a scruple of mucilage of *gum Arabic*, a perfect union may easily be produced, and the mixture continues uniform many days.

## EXPERIMENT XXXII.

I tried the same experiment with five drops of oil of cloves, anniseeds and nutmegs, by means of the mucilage of *gum Arabic*, and an ounce and half of water, which readily united.

## EXPERIMENT XXXIII.

A mucilage was prepared of clean *gum tragacanth*, dissolved in the same water, and of

a similar consistence with that made from *gum Arabic*: with this mucilage I repeated the preceding experiments by agitation, but could not unite oil and water by this medium so speedily or lastingly as by the mucilage of *gum Arabic*, though I made use of double the quantity of mucilage to that of oil in some of the experiments.

#### EXPERIMENT XXXIV.

The mucilage of *gum tragacanth* was also tried with the balsams, by attrition, but a larger quantity was required, and the union was neither so perfect nor so lasting; though by simple agitation, double the quantity of mucilage mixed the balsam and water so well as to have the appearance of an uniform emulsion; but the parts soon separated.

#### EXPERIMENT XXXV.

Many of these experiments, by attrition, I repeated with mucilage of quince seeds, made of the like consistence with the others I had used, and found the mixture succeeded very well, and in most of them better than with the mucilage of *gum tragac.*

EXPE-

## EXPERIMENT XXXVI.

I likewise made tryal of starch, reduced to a jelly by boiling it with water, and found that this also united many of the liquid resins; though on standing they separated: several syrups were likewise made use of for the like experiments, but scarcely any of these succeeded: syrup of marsh-mallows answers the best; but even this is inferior to a much smaller quantity of the mucilage of *gum Arabic* of the same consistence.

## EXPERIMENT XXXVII.

I tried to cover the acid of vitriol by these mucilages, and found that of *gum Arabic* answered best; the quince seeds better than the *tragacanth*, and that better than the *syrup altheæ*: these I did by agitation.

## REMARKS on the preceding EXPERIMENTS.

By J. FOTHERGILL, M.D.

**I**T may not be improper to acquaint the Society with what view the preceding experiments have been made, and what purposes they are intended to serve: I shall do this with as much conciseness as I can, and shall point out some of the advantages which I think may result from them.

In 1748, I received a MS. from a correspondent at Dublin, entitled, *A new method for the improvement of the manufactures of drugs*, in a treatise on the *elixir proprietatis*, which was printed here the same year under this title: at that time I ascribed it to Dr. Ruty, from whom I received it, though it was sent to me as the work of an anonymous acquaintance: but I have since been informed, the public is indebted for it to H. Barton, an ingenious apothecary in Dublin.

Though these circumstances may seem foreign to the subject, yet as I think the treatise

tise above mentioned contains much useful instruction, and as I am obliged to it for the hint which gave rise to the preceding experiments, and for the advantages received from them, I think it is but justice to give the public this information.

Our author tells us (in page 20) that he dissolved gum Arabic in water to the consistence of a thick mucilage, with this made an union of turpentine with water, in the form of a neat, smooth emulsion: he likewise acquaints us, that the same mucilage, with some oil of almonds and common water, were mixed together in the form of an emulsion.

At this time I was engaged in some enquiries into the origin of amber, and as I had many reasons to believe that it was a vegetable resin, reduced by time and a vitriolic acid into the condition we now see it, I imagined it not impracticable to produce a substance resembling amber in many of its properties,



To mix a strong vitriolic acid intimately with any of the vegetable resins, was a difficulty I could not surmount 'till I met with the treatise above mentioned; for the oil of vitriol burns that part of the resin which it touches, the moment they come in contact; and if the oil is lowered with water, it will not mix by any other means I am acquainted with, so intimately, and without burning the resin, as by the assistance of a mucilage; and I had the pleasure of observing, from the first essay I made, that the mixture instantly gave the fragrance of amber sufficiently strong and distinct.

Other affairs took me off from prosecuting this inquiry any farther at that time; but I have still made use of the same contrivance to exhibit several medicines in a liquid form, which, with respect to extemporaneous prescription, are some of the most untractable in the *Materia Medica*.

Expressed and essential oils, balsams, resins, gummi-resins, resinous tinctures, pinguious

guious animal substances, by the means of a vegetable mucilage, are rendered to a certain degree miscible with water, and capable of being administered, in this form, as speedily and effectually, as by means of the *vitellum ovi*, the common medium now in use.

The mucilage has besides this further advantage; it is seldom foreign to the prescriber's intention; when he gives these substances, it is not known to disagree with the stomach in any case; which cannot be said of the *vitel. ovi*; it is not liable to become rancid and excessively prejudicial; and, what will be of weight with some compounders, it is much less expensive.

When I was satisfied, from my own experiments, that this method was in most cases preferable to any other commonly practised; and thought it might be of use to others; I prevailed upon J. Bogle French, an ingenious apothecary, with whom I was casually conversing upon the subject, to be at the pains of making some experiments, on purpose

purpose to determine, whether the proportions I had commonly used, were the most proper; whether any other mucilage would succeed better than that which I had commonly used, *viz.* the mucilage made from gum Arabic; and whether simple agitation would not, in many instances, render the mixture sufficiently uniform to be exhibited without disgust.

With this view divers experiments were tried, by putting the several ingredients mentioned into a phial, and shaking them together. This is all that is meant, when the union is said to be performed by agitation. And it appears from several of the experiments, that this process is all that is necessary to mix several liquids together, which have hitherto required much more labour by any other method, *viz.* expressed and distilled oils, the more liquid resins, and resinous tincture.—There are however several substances, *viz.* the thick balsams, resins, and many others, that cannot be treated in this manner. These were first rubbed  
with

with mucilage in a glass or marble mortar, the other liquids then added, and, by rubbing them together, well mixed. This is all that is intended when mention is made of mixture by attrition.

It will appear from the preceding experiments, that the mucilage of *g. Arabic* is, of all others yet tryed, the most proper, and succeeds the most easily and lastingly of any. That by means of this mucilage, and in some cases even by the powder of *g. Arabic* alone, not only oils and resins but even pinguious substances may be reduced to the form of an emulsion with water. That though even a viscid syrup alone effects this union with difficulty, yet an addition of syrup to the mucilage, renders the union more perfect. (Exp. VI. VII.) That the addition of a distilled spirituous liquor does not prevent this union.

And that a proportion, like the following, will seldom disappoint the prescriber's expectation of forming a neat composition.

*R. Aq.*

℞. *Aq. simp.* ℥iſs. *Spirit.* ℥ii. *Balsam.* ℥i.  
*Mucilag. g. Arab.* ℥ſs. *Syr. simp.* ℥i.

Or,

℞. *Aq. simp.* ℥i. *Ol. amygd.* ℥ſs. *Syr. & aq.*  
*ſpir. a. a.* ℥i. *Pulv. g. Arab.* ℥i. *Vel mucil.*  
*g. Arab.* ℥ſs *M. agitando.*

That, in ſome caſes, the mucilage not only acts this part the beſt of any, but conceals diſagreeable taſtes, and covers extreme pungency.

That it preſerves the ſubſtance it is thus united with, and cannot be in hazard of contracting the putrid rancidity that the yolk of eggs, the medium hitherto moſt generally uſed, is liable to.

That camphire and muſk may thus be exhibited in a liquid form, with certainty in regard to the doſe; whereas nothing is more uncertain than the preſent method of adminiſtering them in a liquid form; which,  
 where



where the dose can be ascertained, is often the best.

For camphire given in substance, either in pills or bolus, unless it is very carefully mixed, will often occasion great anxieties, from the pungency of a large particle of camphire vellicating the stomach. And the present *julepum e camphorâ* is seldom prepared alike in any two shops.

The same uncertainty attends the musk when given in a liquid form ; for if the compounder values himself on the appearance of neatness, perhaps great part of the musk is thrown away. The mucilage, however, unites it with water so readily and intimately as to make the whole smooth and uniform.

Bees wax, from the difficulty of giving it in a liquid form, has hitherto been very little used *internally* ; though in painful diarrhoeas and dysenteries, it seems to promise considerable benefit. From EXP. XXVII. it appears, however, that this substance likewise

wife may be rendered miscible with water; by first making the *Butyrum Cerae Bateanum*, and then dividing it farther by the powder or mucilage of *gum Arabic*. Half an ounce of the wax so dissolved, with a pint of barley-water, a proper quantity of spirituous water and a little syrup, forms an emulsion that in the cases specified may be given to advantage.

*Sperma ceti* beat fine in a marble mortar, with an equal quantity of the Arabic mucilage, forms a smooth paste, which may be kept for use in this condition many days. It grows somewhat dry and hard by keeping, but contracts no apparent acrimony or rancidity. This paste easily mixes with water by attrition, and speedily forms an homogeneous milky liquor. This method of manufacturing the *sperma ceti* for extemporaneous prescription, seems the more worthy of notice, as the prescriber is supplied with a medicine less disgustful, and with more expedition, by this than by the usual means, and at the same time with more ease to the compounder.

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The most common method of uniting oils and waters at present, is, by means of some volatile alkaline salt or spirit; but there are many diseases in which these are improper: oil is often prescribed in nephritic cases; to give it alone adds to the *nausea* which the disorder itself produces; here volatile spirits are foreign to the intention. The mucilage coincides with the general design, and produces an emulsion both grateful and salutary.

Another circumstance that renders this method of exhibiting oils preferable in many cases to that with volatile alkalies, is, that acids may be easily and agreeably given at the same time.

When I first began to use the mucilage for the purpose of mixing oil and water, in order to succeed the more effectually, I sometimes directed a smaller quantity of mucilage, and likewise of the volatile, than would, of themselves alone, be sufficient to unite the oil and water together. But this, instead of promoting, prevented it intirely:

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the mucilage curdled, its latent acid destroyed the alkali; and no lasting union could be obtained, even by long attrition. Hard calcarious waters likewise render the mixture difficult, sometimes impracticable.

But acids have no such effect; the union succeeds as well when dulcified spirits of nitre, elixir of vitriol, oil of vitriol, or any other acid I have yet tried, are added, as without them. Nay, their acidity is so far concealed, that a quantity may be given under this disguise, in a smaller compass than by any other way I am acquainted with.

XI. *A Letter relative to the Cure of the  
Chin-Cough* \*.

TO THE MEDICAL SOCIETY IN LONDON.

GENTLEMEN,

THE *tussis convulsiva*, or chin-cough, is for the most part so troublesome a disease, and sometimes so fatal, that every hint conducive to abate its violence and prevent the dangers arising from it, will I doubt not be acceptable to you and the public.

I have for some years made use of the following antimonial medicine, in the cure of this disease, and often with so much benefit to the patient and satisfaction to myself, as to induce me to mention it casually to many of my physical acquaintance.

\* From the Medical Observations and Inquiries, vol. iii.



From several of these, I have received such favourable accounts of its success, as to strengthen my own opinion of its efficacy; and to esteem it, though not a certain cure in all cases, yet perhaps as useful a medicine in this distemper, as any we are yet acquainted with.

The composition is the following :

℞ *Pulv. e chel. cancr.* ʒß.

*Tartar. Emetic.* gr. ij.

*Accuratè misceantur.*

The testaceous powder, in this case, is not particularly designed for any other use, than that of making the *emetic tartar* divisible into very small doses with precision, and without difficulty. This proportion was fixed upon, as the whole is divisible without a fraction; each grain of the powder containing one 16th part of *emetic tartar*. Where a very small portion of this is wanted, the bulk may easily be increased by the addition of some other, or the same testaceous powder: where more of the *emetic*

*tartar* is wanted, the quantity of the dose is then sufficient.

One grain, one grain and an half, or two grains of this composition, may be added to five or six of any testaceous powder, and given in a small spoonful of milk and water, in the forenoon between breakfast and dinner, to a child of a year old: if this quantity does not prove sufficient to excite vomiting, it should be increased the next day to such a dose as will produce this effect; and, in this manner, let it be daily repeated about the same hour.

This time of day, viz. between breakfast and dinner, has been fixed upon preferably to any other, on these considerations, viz.

If the puke is given early, the stomach being empty, a straining, too great to be borne without detriment, might be occasioned.

Was it given in the evening, the child would, perhaps, be robbed of too great a quantity of nutriment. Children's break-

fasts are, for the most part, soon digested; at least, so much nutriment is taken up in a short time, as that much inconveniency cannot ensue from the loss of aliment.

At night, when the fever is vehement, half the former dose of antimonial powder is given, with a few grains of *nitre*, and the *pulv. contrayerv. c.* This generally procures an agreeable *diaphoresis*, and takes off some part of that moisture which might probably have otherwise increased the irritation and oppression of the lungs.

It is but seldom that physicians are consulted at the beginning of this disease, as, for the most part, its access is slow, and gives but little alarm, till it becomes so evident, as to render it difficult to do any thing more than mitigate the symptoms.

But, in most cases, and in every stage of the disease, I have chiefly trusted to this process; seldom having occasion either to bleed, or to use any other kind of evacuation, unless to procure a stool or two daily, if the  
 medicine

medicine above mentioned fails in this respect.

In this case a proper dose of *magnesia*, given at bed-time, with the antimonial, seldom fails of answering our expectations. Sometimes no very manifest advantage appears to be gained by this process in several days; but, if no material inconveniency arises, it will be right to proceed.

The first symptom of amendment usually is, that the fits of coughing become less frequent, the fever abates, and the breathing is not so difficult; the fits however do not seem to lessen much in point of violence, for some days; at length, however, the cough decreases, and every other symptom abates.

The child is then directed to take the puke only two days together, and omit it the third. Every other day will soon suffice, and, then, once or twice a-week till the cough is wholly gone.

During this process, they are directed to drink asses milk, to eat sparingly of the lightest meats, broth likewise, and milk in any shape. Quantity is strictly to be regarded; for the more and oftener the stomach is filled, to the least degree of oppression, the longer the disease continues, and with greater violence.

The ablest of the faculty and those of the most extensive experience have found, that to empty the stomach of its contents frequently has been the means of affording most relief. Oxymer of *squills* and *ipécacuanha* have stood foremost in the list of remedies for the whooping-cough, a considerable time; and this apparently from the good effects observable from their operation.

This induced me to make trial of the remedy in question, as having these particular advantages.

The medicine is almost tasteless, is in quantity very small, and may be given in the  
most



most unsuspected vehicle : no inconsiderable benefits, where we have to do with such patients as are most exposed to this terrible distemper.

It is, undoubtedly, more antiphlogistic than either of the medicines above mentioned, is less irritating in general, yet operates with equal certainty, and, perhaps, more energy.

It is a powerful diaphoretic; the good effects of which, in this case, have been already mentioned.

One thing, however, may be necessary to observe, in respect to the preparation I have described. It has been hinted to me, that it will not long preserve its efficacy; and this decay is supposed to arise from the tartar being robbed of its acid by the absorbent powder. This, if true, should induce persons to mix but a small quantity at once, to keep it perfectly dry, taking care especially, that the *emetic tartar* be prepared by a skilful hand.

I have

I have purposely omitted any reflections on the nature of this disease, or particular descriptions of its progress, any farther than as they were connected with the history of this medicine, as I know your design is rather to collect matters of fact than to build systems,

I would not, however, be understood to suppose, that this medicine will alone complete the cure of the whooping-cough, at all times, and under all circumstances: I know it will not; and that this, as well as every other medicine, is useful or otherwise, just as it is indicated. *Cantharides*, the *bark*, *musk*, *castor*, and many other medicines, have doubtless been of great use in particular cases, and may be in peculiar epidemic constitutions.

## XII. *Observations on the Use of Hemlock* \*.

SOON after Dr. Storck's account of the *Scicuta* was published, I had several opportunities of trying it in the disorders for which it was so strongly recommended; but with many others of the faculty, I had too great cause to lament, that a specific remedy for cancerous complaints was still undiscovered.

Nevertheless it appeared to be a medicine of great efficacy; and though it by no means answered my wishes in the cure of cancers and cancerous tumours, yet it seemed still worthy of farther trials, has proved beneficial in various obstinate complaints, and tho' I cannot produce one instance of a cancer cured by the *scicuta*, yet I can recollect several in which the pains have been mitigated for a time, the progress checked, and the

\* From Medical Observations and Inquiries, vol. iii.

discharge changed for the better in respect both to colour, smell, and consistence.

The following case may perhaps deserve a place here, as one proof of these effects :

A gentleman, from one of our South American colonies, middle-aged, healthy, temperate, and active, had a wart-like substance grew up on one side of his nose, not far from the inner *canthus* ; and as I remember from an accidental injury. It gave him no pain, nevertheless he frequently endeavoured to pluck it off ; by which it grew sore and uneasy. A practitioner there, promising him a certain and speedy cure, applied *escharotics*, and increased the mischief.

Being thus disappointed of a cure, and the disease every day increasing, he came to England in the summer of 1763. The ulcer had, by this time, destroyed the teguments almost round the orbit, and eat deep into the upper side of the socket. The globe of the eye remained, but wholly useless in respect to vision, and almost without motion,

tion, the muscles being destroyed. The pains were acute both in the globe itself, and parts furrounding, which were exquisitely tender, and the ichorous discharge was extremely foetid. He had long been under the necessity of taking large doses of laudanum to procure some remission from pain during the nights.

Under these circumstances the *hemlock* was recommended to him. He took at first twenty grains a day, eight at noon, and twelve at night. This in a few days lessened his pain, and the quantity of laudanum was reduced in proportion. At length it was wholly laid aside, the *hemlock* mitigating the pain intirely, without producing costiveness, thirst, or head-ach. The dose of *hemlock* was gradually increased to seventy grains a day: if he proceeded farther, it either made him sickish, or created a singular kind of head-ach and giddiness. Sometimes he grew weary of taking it, and omitted it for several days, and returned to it again as his pain or other circumstances required. He is still living, and still continues to make use  
of



of the *hemlock*; and though the ulcer yet spreads, and most probably will do, whilst he lives, yet its progress has been remarkably slow, compared with its advances before the use of this medicine; its aspect is more kindly, the discharge of a better consistence, and the stench, while he takes the medicine, is so much diminished, that those who have occasion to be near him can easily distinguish when he is taking the *hemlock*.

Various attempts were made with the *cicutæ* externally, in infusions, decoctions, and solutions of the extract in different liquids and different proportions; but they all gave more or less pain, and left an uneasy stiffness round the edges of the sore.

In a cancerous affection of the tongue, the extract of *hemlock* procured great relief; it abated the stench and eased the pain: but the relief was only temporary, and at length it failed in affording any ease, or retarding the progress of the fatal disorder.

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It is not very uncommon to perceive, in these dreadful evils, some abatement of the symptoms soon after taking the *cicuta*, but the effects are too seldom lasting.

I have given it repeatedly in tumours apparently of a cancerous tendency; it has seldom succeeded to my wishes, in large ones especially; in small incipient hardneſſes in the breast, and other parts, I think it has been of use.

But the trials I have made of the medicine have not been confined to this class of disorders. In scrophulous distempers, I think it has been much more beneficial than in the preceding: the first case in which it was given, turned out so favourably, as to induce me to think of it with some partiality; and to use it freely, though I own not always with equal success. When the *cicuta* was introduced into public notice by Dr. Storck, the following case was under my care, viz.

A young gentlewoman of a thin habit, pale complexion, about twenty-eight  
years

years of age, had been afflicted at times, from her infancy, with scrophulous complaints: severe *ophthalmies*, glandular swellings, and other concomitants of this disease.

To remove these, no endeavours had been wanting; the ablest of the faculty had successively been consulted, and many famed empirical medicines had likewise been made use of. She had taken, under my directions, a decoction of sarsaparilla, the bark, mild mercurials, sea-water, and other efficacious medicines, but without benefit.

When a trial of the *cicuta* was thought of, she laboured under the acutest *ophthalmia* she had ever endured; her pulse small and feeble, her rest and appetite diminished, the *menfes* in small quantities and pale, and every secretion irregular. The glands on each side the neck down to the clavicles were swelled and hard, on one side particularly. And such was her extreme sensibility of light, that she sat constantly on her bed within thick stuff curtains, and the light was excluded with  
the

the utmost care; the opening of her chamber-door gave her much pain.

Such was her situation when we began the *hemlock*; it was in the infancy of its use, and the doses at first were small. Some weeks had elapsed before we got up to twenty grains a day. But the extract we used was good, and, small as the doses were, so much benefit was soon perceived as encouraged a steady perseverance and an augmentation of the dose. The *ophthalmia* quite went off, the swelling of the largest glands was considerably reduced, that of the smaller dispersed, a better state of health returned than she had known for any length of time together, and has continued so ever since. She persisted in the use of the extract constantly for more than a year, and without perceiving then or since any ill effects from it, in any respect.

I have since given it in many other scrophulous cases, and frequently with advantage, to adults especially; and indeed it is to them that I have for the most part

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pre-

prescribed it, as children seldom can take any quantity of pills, and in any other form it is disgusting, if long continued. If the extract in any respect disagrees, it is more difficult to learn this from children than adults; and, when given to children even in very small doses, I think it has produced slight spasmodic affections. For these reasons, I seldom use it in very young subjects, or in others of extremely irritable habits.

At the same time that the *cicuta* was administered in the case above mentioned, I made trial of it in the following :

A person of a thin and rather delicate habit, naturally healthy, about the thirtieth year of her age, began to have numerous red pimples break out about her mouth, nose, and cheeks, with frequent and violent head-achs. The *menfes* became too copious, a *fluor albus* constantly followed; she grew costive, lost her appetite and strength; obvious indications of acrimonious juices, and relaxed solids; the consequences



quences of much anxiety, labour and solicitude.

Her face grew daily worse, the pimples increasing in number, magnitude, and hardness; forming small tumours that sometimes suppurated, but always slowly and with great pain; now and then some of the largest assumed a livid hue, and continued long in that condition.

The utmost care was taken in respect to diet, both as to quantity and kind; she was extremely temperate in respect to liquors of any sort; and, if any errors were committed, they arose from too much exercise in her family, and too constant solicitude.

To describe all the attempts that were made in order to mitigate these complaints, with their various success, would be useless, as they were ineffectual: it may suffice to observe, that she followed the methods prescribed for her with unremitting diligence, but without the desired effect.

She was attacked with a tedious depressed fever while these endeavours were using, which left the hairy scalp of her head almost covered with small *steatomatous* tumours, from the bigness of half a pea to the size of half a large walnut; the appearances in her face continuing the same, both in respect to number as well as pain, which, in frosty weather, was almost insupportable.

Though nothing cancerous could be suspected from her parents or her natural constitution, yet the hard livid tubercles on her face, yielding to no method hitherto attempted, created fears of their tending to mischief: and this put me on trying the *hemlock*. She took it at first in small doses, increasing the quantity as she found she could bear it, and kept to it steadily, during the autumn, winter, and following spring.

The good effects soon became visible in every respect. Her face grew clearer and better than it had been for some years; the immoderate discharges were reduced to a reason-

reasonable quantity; the *steatomatous* tumours on her head were much lessened, and she enjoys better health, by the use of this medicine singly, than she has done for several years. When she finds any return of her former complaints, she constantly has recourse to the extract, which always gives her relief.

Permit me to mention a few more cases, in which I have used this medicine with advantage.

A middle-aged man, healthy, active, and temperate, was attacked with a pain in one cheek-bone, about the *antrum Highmorianum*, and for which he could assign no cause. It grew to be severe, and continual, but was sometimes heightened to a degree almost beyond bearing. Though a native of England, his residence was then in one of our North American colonies. He applied to many very able practitioners there, but without obtaining more than a temporary mitigation, by opiates. Mercurials, antimonials, alteratives, the bark, warm, cold,

and sea-bathing; drains of every kind were made use of, but to no purpose. Several teeth were drawn, and an opening made into the *antrum*, but fruitlessly. The pain sometimes was abated, but it never wholly went off; its returns were frequent, several times in an hour, and excruciating; so as to produce spasmodic contractions of every muscle about the face and neck, and even affecting the whole body.

Under these circumstances he arrived from America, and brought with him an exact detail of the progress of his disease, and the means made use of for his relief.

Until I could have leisure to consider the case attentively, and what farther might be reasonably proposed, I ordered him to take the extract of *hemlock*, beginning with twenty grains a day, and directed him how to proceed in increasing it.

He called about a week after (the time I had fixed), when I observed his countenance to be somewhat less disturbed, and he owned  
himself

himself rather better. He was advised to continue in the same method, which he did very constantly during the autumn and winter. In the spring, as he found himself much better, he took the medicine less regularly, and returned to America almost free from pain, and intirely so from any of those spasmodic contorsions, which accompanied him almost incessantly at his arrival. He took no other medicine during the whole time.

The following case perhaps may likewise be worth reciting :

A healthy sober young man applied to me in the spring 1766, on account of a pain in his arm. The part affected was from about the middle of the *biceps*, down the inside of the arm to the wrist. He knew of no particular accident that had brought it on, except taking cold ; it was deemed rheumatic, and he had endured it a considerable time before I saw him. It was neither swelled, discoloured, or sore to the touch ; and alike uneasy, both day and night.



It was treated as a rheumatism; mercurial alteratives, decoctions of the woods, the bark in various shapes, antimonials likewise and anodynes, were made use of; but without gaining any considerable benefit. He then took the extract of *hemlock* in a full dose about a fortnight, when he found the pain began to abate. He continued it during the summer regularly, got perfectly well, and so remains.

A few instances of this kind naturally induce one to apply a remedy like this, in very dissimilar cases.

A married woman, between thirty and forty, a long time infirm, subject to coughs, hectic heats, and a train of complaints, arising from small *vomica's* being frequently formed in the lungs and discharged, applied to me soon after a large one had broke. She had then a copious purulent *hæmoptoe*, incessant cough, quick small pulse, night sweats, with loss of appetite, and loss of strength. Soft demulcent cooling pectorals were given, with anodynes frequently in  
small

small quantities, but to no purpose. A light decoction of bark with elixir of vitriol and anodynes succeeded no better. The extract of *hemlock* was then ordered to be taken three times a day, and to be washed down with a few spoonfuls of tincture of roses. The patient was ordered into the country, and I saw her no more, nor heard any thing of her, till I was informed, several months afterwards, that, from the time she commenced this course, she began to recover, kept in town, and grew well.

I was induced to make trial of it in this case, from considering the most usual effects of *hemlock*. It is anodyne, corrects acrimony, and promotes the formation of good matter.

I have since made use of it in various pulmonic disorders, though but seldom with the like success. Where there are symptoms of tubercles forming, a strumous habit, and a tendency to *phthisis* from these causes, I believe it will often be serviceable. But to describe the various trials I have made,

made, and the various successes, would lead me beyond the bounds of an essay suitable to your design.

There are some things, however, which I must beg leave to mention more particularly, as they seem to me of consequence in the use of the *cicuta*.

It is well known with what avidity the public embraced the expectations given by Dr. Storck. Every body made the extract, and every body prescribed it. We soon found it would not perform all the wonders ascribed to it, and, falling into the opposite extreme, many declared it would do nothing, and dismissed it with disgrace.

Much of the extract, hitherto used, has not, I believe, been made with due attention to the season when the plant is in its greatest perfection. So soon as the plant appeared strong and succulent, it was commonly gathered for use. But I know from repeated experiments, that the extract, prepared from *hemlock* before the plant arrives at maturity, is  
much

much inferior to that which is made when the *hemlock* has acquired its full vigour, and is rather on the verge of decline: just when the flowers fade, the rudiments of the seeds become observable, and the habit of the plant inclines to yellow, seems the proper time to collect the *hemlock*. It has then had the full benefit of the summer heat, and the plants that grow in exposed places, will generally be found more virose than those that grow in the shade.

In respect to the manner of preparing this extract, it may be necessary to observe, that the less heat it undergoes the better. Therefore, if a considerable quantity of the dry powder of the plant, gathered at a proper season, is added, the less boiling will be necessary, and the medicine will be the more efficacious.

But let the extract be prepared in what manner soever it may, provided it is made from the genuine plant, at a proper season, and is not destroyed by boiling, the chief difference observable in using it, is, that a  
larger

larger quantity of one kind is required to produce a certain effect, than of another.

I have found that twenty grains of one sort of extract have been equal in point of efficacy to thirty, nay near forty of another, yet both of them made from the genuine plant, and most probably prepared with equal fidelity.

To prevent the inconveniencies arising from this uncertainty, it seems always expedient to begin with small doses, and proceed, step by step, till the extract produces certain effects, which seldom fail to arise from a full dose.

These effects are different in different constitutions. But, for the most part, a giddiness affecting the head, and motions of the eyes, as if something pushed them outwards, are first felt; a slight sickness, and trembling agitation of the body; a laxative stool or two. One or all these symptoms are the marks of a full dose, let the quantity in weight be what it will. Here we must stop  
till



till none of these effects are felt, and, in three or four days, advance a few grains more. For the general experience of all who have used this medicine to any good purpose, with whom I have any acquaintance, agrees, that the *cicuta* seldom procures any benefit, though given for a long time, unless in as large a dose as the patient can bear, without suffering any of the inconveniences above mentioned.

Patients commonly bear a greater quantity of the extract at night, than at noon; and at noon, than in the morning. The method I commonly follow is to order  $\mathfrak{z}\text{ij}$ . to be divided into thirty pills, not gilt. Adults begin with two in the morning, two at noon, and three or four at night, with directions to increase each dose, by the addition of a pill to each, as they can bear it.

The extract of *hemlock*, given in this manner, is apparently anodyne; it promotes rest, and eases pain. It seldom creates thirst, or that kind of morning  
 2 head-

head-ach, which succeeds an opiate of any kind.

It seldom occasions costiveness, but, in most, it procures a laxative stool the day following.

In some habits very small doses offend the stomach, excite spasmodic twitchings, heat and thirst. In such cases I immediately forbid its use.

From the certain quality it possesses of altering the property of a thin, corrosive, cancerous ichor, and changing it to a milder fluid, I have been induced to try it in sanious ulcers, and gleet, painful discharges from the *vagina*, and often with success. Also in fixed excruciating pains, probably arising from acrimony, not dissimilar to that of cancers.

The *Materia Medica* is already loaded with a number of very inefficacious simples, and it would give me extreme concern to assist in adding another to the catalogue: but,  
from

from the observations I have had an opportunity of making, and from the concurrent opinion of several of my medical acquaintance, I persuade myself, that the *cicuta* will be an useful acquisition, and will assist us in the cure of many diseases, in which the medicines now in use are inadequate auxiliaries.

XIII. Re-

XIII. *Remarks on the Hydrocephalus Internus* \*.

**I** HAVE for a long time proposed to myself, to lay before you some account of a disease which occurs more frequently, I believe, than is generally apprehended, and is very often confounded with another, to which, in many respects, it appears not dissimilar; yet arises from a very different cause. At the same time, I must own to you, it is not in my power to suggest any probable means of curing the disease of which I treat: it has baffled all my attempts, both when confided in alone, and in consultation with the ablest of the faculty. All that I pretend to do is, to exhibit such an idea of this disease as may serve to make it known when it occurs in practice, and to form such a prognostic of its progress and event, as may justify practitioners to themselves, and to the families in which such fatal occurrences may present themselves.

\* From the Medical Observations and Inquiries, vol. iv.

I have

I have just perused Dr. Robert Whytt's history of this distemper, in his works, lately published, in a tract at the end. The Doctor has done more in elucidating this subject, than any of the writers I have seen. It will appear from what I have to say on this subject, that we perfectly agree in the seat of the disease, in most of its symptoms, and in its fatality. Nevertheless, in some points, our observations have led us to make different conclusions.

The diseases to which this I am treating of bears the nearest resemblance, are such as are supposed to proceed from worms; and what increases the resemblance is, that they are, for the most part, diseases of the same age. I have seldom met with the *hydrocephalus* in subjects younger than three years; most frequently it has happened, in my practice, from five to ten; two or three from ten to thirteen, and two cases between seventeen and nineteen years of age. The last four were girls; the former mostly boys; and none of them peculiarly unhealthy before they were attacked with this disease.

Z

Most



Most of them had gone through the small-pox, some the measles likewise; but without any reason to suspect that these had left any foundation for this terrible complaint.

It happened, that several of those who first of all came under my care in this disease, were either the favourites of the family, or the sole hopes of their parents. I do not mention this as having any thing to do with the disease itself, but as the cause of my not being able to learn what the distemper really was, so soon as I could have wished. It was difficult to ask, and still more difficult to obtain leave, under such tender circumstances, to examine the subject. At length, however, I succeeded, and, in several dissections, found the same cause subsisting; viz. a collection of clear pellucid lymph, amounting in quantity, by appearance, to 2, 3, or 4 ounces, contained in the ventricle of the brain, under the *corpus callosum*, from whence it was impossible to discharge it by any medicine or operation hitherto discovered.

The

The first case I met with I suspected was owing to worms, and thought myself fully justified in exhibiting the most efficacious anthelmintics I was acquainted with, applying such other remedies as particular exigencies required. When another case like this came up, I early took the alarm, and requested assistance; but we were as unfortunate as I had been before. Once, sometimes twice in a year, for several succeeding years, I had occasion to see these unhappy objects. Of late years, they have not occurred to me quite so frequently, though I am now lamenting a disaster of this sort, which has deprived a large and honourable family of the only male amongst them.

Two or three instances I have met with, that had very strong appearances of being entered into the last stage of this disorder, but were happily recovered; they were actual worm-cases, and were cured by anthelmintics. I had been led, from these appearances that were so similar to those which attend the *hydrocephalus*, to judge it was the

same, and to form an unfavourable prognostic.

Dr. Whytt supposes, that the commencement of this disease is obscure; that it is generally some months in forming; that, after some obvious urgent symptoms make assistance necessary, it continues some weeks before it ends fatally. This, in general, differs from what I have hitherto observed. I have seen children, who, from all appearance, were well, healthy, and active, seized with this distemper, and carried off in about fourteen days. I have seldom been able to trace the commencement of it above three weeks. We know very well how often those who are unacquainted with these things ascribe the beginning of disorders to wrong causes, and date them from æras with which they have no connection. Thus every malady to which a child may be incident through the course of many years, shall be attributed to the small-pox, a worm-fever, or some other disease, that has thoroughly roused the parents fears, though that very disease may have been happily  
termi-

terminated. One cannot be sufficiently upon one's guard in ascribing effects to causes that existed at a remote period.

In most of those whom I have seen in this distemper, a pain in some part or other below the head was the first thing they complained of; most commonly about the nape of the neck and shoulders, often in the legs, sometimes in the arms, but more rarely.

This pain was not always alike acute, nor always fixed to one place; sometimes it seemed not to affect any of the limbs. In these cases, the head and stomach seemed to be more disordered; and indeed were always disordered more or less from the beginning, as far as I could learn. When the pain was in the limbs, the sickness or head-ach was less; when the head became the seat of complaint, the pain in the limbs was seldom or ever mentioned: some had very violent sicknesses and violent head-achs alternately.

From being perfectly well and sportive, some were seized with these pains in the limbs, or with sickness, or head-ach slightly, in a few hours, commonly after dinner. Some have been observed to droop a few days before they complained of any part being much indisposed. In this manner they continued three, four, or five days, more or less, as the children were healthy and vigorous, when the distemper begins to shew itself in an alarming manner.

They then commonly complain of a most acute pain in the head, deep seated, and extending across the forehead from temple to temple. They are generally very sick between whiles, crying out in the most affecting manner, *Oh, my head! Oh, I am sick!* alternately, and with short intervals; dosing a little in these intervals, breathing irregularly, and sighing much while awake. Sometimes they only seem to breathe in sighs for some minutes together.

The pulse, from being regular as in health, as the disease creeps on becomes irregular;



regular; slower, for the most part, at first than it ought to be; it grows still slower as the pain increases, gradually likewise irregular, the strokes being made both with unequal force and in unequal times. The limbs, for the most part, are temperate, in respect to heat, after the first access, which is often attended with feverish heats, especially towards evening and fore-part of the night, and till within a day or two of their dissolution; the pulse then becomes extremely quick, the breathing deep, irregular, and laborious, the heat excessive, and more general. The head is always hot from the first attack, and the *praecordia* likewise.

Almost every symptom that is known to attend an irritating cause existing in the brain, appears in its turn; first, pain in the limbs, sickness, and head-ach.

Short disturbed sleeps, startings, irregular pulse, watchfulness, and the pupils of the eyes much dilated.

They are unwilling to be disturbed for any purpose, are averse to light, take things greedily, and cannot bear any posture but that of lying horizontally. They attend less to objects; when asleep, great part of the whites of the eyes are seen, and they are undisturbed by any thing but moving them. Their urine comes away insensibly, and their stools likewise. They often scream out most piercingly, but complain of nothing. One or both hands are most commonly about their heads. At length the eye-lids become paralytic, the *iris* immoveable: it gives them no apparent uneasiness, if one raises the eye-lids with one's finger two or three days before they die. The heat of the head and trunk becomes excessive; a great heat and sweat spreads over the whole body, respiration is altogether suspirious, the pulse trembling, and quick beyond the possibility of counting, and the patient goes off gradually as the strength fails; sometimes a spasm finishes the catastrophe.

One sees, in this recital, many symptoms that are familiar to worm-cases, teeth, and  
other

other irritating causes. Perhaps, it will be difficult to point out any that shall particularly characterise this disease. The pains in the limbs, and incessant head-ach, and sickness, seem to me the most certain intimations of the danger. These happen in other diseases of children, but neither so uniformly nor so lastingly.

Another circumstance likewise is familiar, if not peculiar to this disease: I recollect not one instance, in which the patient was not costive, and in which likewise it was not without singular difficulty that stools were procured.

The stools are most commonly of a very dark greenish colour, with an oiliness or a glassy bile, rather than the slime which accompanies worms. They are, for the most part, singularly offensive. The urine shews nothing to be depended on: it is various both in colour and contents in different subjects; depending chiefly on the quantity of liquids they get down, and the time between the discharges of urine. From their unwillingness

lingness to be moved, they often hold their water a long time; twelve or fifteen hours, sometimes longer; they seldom complain of their belly: indeed when they complain of sickness, they mention their belly; but, if one desires them to point to it, they always lay their hand on the stomach. In disorders from worms, this is not so generally the case. In these complaints, and those attending dentition, spasms are more frequent than in the distemper I am describing. Children subject to fits, are sometimes seized with them a few days before they die; sometimes they continue for twenty-four hours incessantly, and till they expire; but this is not constant.

The most certain character marks itself indeed but too evidently, when one sees all those symptoms gradually advancing which attend a violent depression of the scull; when a comatous oppression seizes the brain, and diminishes, by degrees, all the faculties, till they are at length totally extinguished, either by some violent spasmodic efforts, or the *vires vitæ* are exhausted.

With

With Dr. Whytt, I have called this disease the *Hydrocephalus internus*, or dropfy of the ventricles of the brain, till some more apposite name can be given to it. From what remote causes it may proceed, I am not so well satisfied as to decide on this point. Whether the breach of a lymphatic may not more commonly be the proximate cause, is submitted to consideration. It is a disorder that happens, so far as I have had an opportunity of observing, more commonly to healthy, active, lively children, than to such in whom, from previous indisposition, there is room to suspect an unequal or weakened absorption.

And indeed, if we consider the numberless little feats of activity that children of both sexes are disposed to, we cannot wonder that a vessel of slight texture should give way on some occasion or other. I am the more inclined to be of this opinion, from the progress of this disease in many of the cases that I have seen of it; from reflecting on the *juvantia* and *laedentia*; and, from this circumstance being generally true, that

in



in strong vigorous constitutions, the disease is fatal in a shorter time than in the tender and diseased, though perhaps not less active dispositions. Sometimes I have been told, that the disease was thought to have taken its rise from jumping from a considerable height upon a hard floor, a fall, or some pretty smart exercise: but however favourable such accounts may be to the opinion already mentioned, yet I offer them with diffidence, and only with a view to promote further inquiry.

Were I to recite the different attempts to cure this disease, made both alone, and conjunctly with some of the ablest in the profession, it would carry me beyond the bounds you have a right to prescribe. It may be sufficient to mention, that, whenever I am called to a patient in the earlier stages of this distemper, I proceed in the same manner as if the disease was supposed to arise from worms, or some cause of irritation capable of being removed.

Three or four grains of *calomel*, or more, according to the age and habit of the patient, with *rhubarb* and the *pulv. e scam. compos.* are given to empty the bowels, if this has not been done before sufficiently. If the stomach appears to be loaded,  $\frac{1}{4}$  or  $\frac{1}{2}$  a grain of the *emet. tartar.* may be joined with it, and the stomach washed with any suitable liquor.

After this, it seems prudent to abate the vomiting by the saline, absorbent medicines, adding a few drops of the *tinct. Theb.* as occasion requires, giving broth, thin decoctions of hartshorn-shavings, and other suitable support, as may be necessary.

Anthelminthics in broth are thrown up in clysters, and small doses of anodynes occasionally exhibited. A decoction of *sem. santon.* with 30 or 40 drops of *ol. terebinth.* in 3 or 4 ounces of broth; or aloes boiled in milk. All heating medicines seem to increase the malady; so does much warmth in the room,

If

If the disease actually proceeds from worms, the symptoms are most commonly at a stand after this process, and, by a repetition at proper distances, it soon gives way; but, if the symptoms not only continue, but increase after a prudent repetition of these medicines, or such as different practitioners may have found to be successful in worm cases, there is too much reason to fear that the distemper is of a more fatal kind, and that the most strenuous and well-directed endeavours will probably afford no relief.

One ought not, however, to cease attempting to mitigate the most pressing symptoms, by all the means in our power. The application of blisters, sinapisms, embrocations externally; the less heating antispasmodics, internally; and, at all times, taking care to keep the bowels, as much as may be, free from impurities, will, perhaps, afford sufficient means to answer every reasonable indication.

I need scarcely mention, that every opportunity of inspecting the body should be sought

fought for by the faculty. Dangerous and incurable as it seems to be, its seat only known, and its fatal issue, we ought not to despair of tracing its beginning a little higher, ascertaining the causes, and fix its character with more precision. By treating the complaint, however, in the manner above mentioned, we lose no advantage: we are almost sure to succeed if the case be only worms; but if otherwise, we at least are treating it in the most rational method, increasing all the secretions, and thereby preventing any addition to the quantity of extravasated fluid, to the utmost of our power.

From the preceding description of this case, it will not be difficult to account for the symptoms; nor will it appear surprising, that the patients go off in the same manner as those who die of a depression of the scull; for it makes very little difference whether the external parts of the brain are crowded on the more central parts, or a fluid is perpetually pressed into the cavities, near the center, strongly forcing their sides and the  
brain

brain itself against the scull. So far as one can learn from the unhappy subjects themselves, the kind of pain they feel, is not quick and darting, or like that of a boil or inflammation; but, though acute, is tense, and as if forcing the head asunder.

When this paper was read to the MEDICAL SOCIETY, Dr. Huck said, he believed that this disease was not confined to children, or such as were under puberty only; for he imagined that he had seen it two or three times in adults, and gave me the following case, where dissection put it out of doubt.

Hannah Hargrave, aged 30, was admitted into the Middlesex hospital, on the 25th of October 1768. She was extremely languid, and so oppressed, that she could not give a very distinct account of her illness. She said, that she had been sick a week; that her chief complaint was a most excruciating pain in her head, with a vomiting of every thing she took, mixed with green stuff: she said she was costive, giddy, thirsty, had great palpitations, and could get no sleep: her  
heat



heat was not greater than in health: her pulse beat 78, strokes in a minute; she had her menses at that time. No means that were used gave her any relief: the head-ach, vomiting, though less frequent, and watchfulness, continued. On the 4th of November she was light-headed, sighed and moaned frequently: the pupils of her eyes were greatly dilated, and I thought she could not see. On the 5th, I first observed a *strabismus*; she gathered up the bedclothes; her teeth were furred; but her tongue was not very dry; her pulse was almost like to that of a person in health.

On the 6th, she seemed every way worse, continued muttering, moaning, always without sleep, and passed her urine involuntarily. Her pulse beat 88 strokes in a minute.

She died on the 7th, and her body was opened by Mr. Tickel house-surgeon, the next day, in presence of some of the pupils and myself. Nothing very remarkable was found, except about four ounces of water in the ventricles of the brain, and a larger

A 2

quantity

quantity than usual in the *theca vertebrarum*.

I have likewise seen two cases lately of the like kind to appearance. Both were women: the first about 17, unmarried; the second about 25, married; and both apparently healthy, till they were seized with symptoms much resembling those described by Dr. Huck. Though there was no opportunity of confirming this opinion by dissection; yet, from the similarity of the symptoms, there was just ground to conclude, that this distemper is not solely confined to the age of childhood.

XIV. *Of the Cure of the Sciatica* \*.

**I**T is always the object of my wishes, and endeavour, in the duties of my profession, to reduce the cure of diseases to all possible simplicity : and nothing affords me so much satisfaction, as when, by repeated cautious trials, a method occurs to me, of curing any distemper with some degree of certainty, ease, and expedition.

I am in hopes, that the method now offered to your consideration, will be found, by experience, to answer the end proposed, and assist practitioners in removing an obstinate painful disease with less difficulty, than by the methods hitherto employed for the purpose.

The *morbis ischiadicus*, or, as it is called in this country, the *sciatica*, is a disease too well known by physicians to need any de-

\* From Medical Observations and Inquiries, vol. iv.

scription; too painful not to require the speediest relief; and so obstinate as to resist many powerful remedies.

In the course of my business, many cases of this nature have occurred to me, and, during a considerable part of my time, whenever they occurred, gave me much uneasiness. I found the remedies recommended for the cure of this distemper often insufficient, always slow in producing a cure, and very often as painful almost as the disease itself.

It is at least amusing to ourselves, if not instructive to others, to mention by what means we become acquainted with useful hints. I was desired, many years ago, to visit a man somewhat above forty years of age, who had long been confined to his bed, from the effects of a *lumbago* imperfectly cured. The violence of the pain was abated, but he was incapable of moving, or being moved, from the place he was laid, without suffering grievous torture. The part affected was the lower part of the *lumbar* region,

from

from side to side, across the loins. His flesh was much reduced, his appetite decayed, and a feverish heat constantly attended him, the consequence of pain and inanition. He had been many weeks under the care of a very able physician, who had attended with much diligence, and prescribed, with judgment, very efficacious medicines. The patient was reduced to the necessity of taking opiates to procure a temporary relief. He had taken them a considerable time, and in doses rather more than moderate, though not very large before I saw him.

Not finding any reason to suspect either an internal abscess, or a tendency to it; but that the seat of the pain was in the tendinous parts about the loins, and deep seated, I directed a small dose of *calomel* to be given every night.

The following was the prescription :

R *Calom. levig.* 3x, rad 9<sup>r</sup> X.

*Tereb. e Cbio. q. s. f. pil. x. non deaurandæ. Capiat j. omni nocte.*

A laxative mixture was provided, to be taken in the morning, to procure stools, if



he should be costive. The opiate was gradually omitted.

Finding a grain of *calomel per diem* to have no effect, I ordered him to take two one night, one the next, and so to proceed.

His pains rather grew less by the time these pills were taken; but not the least appearance of any effect from the *calomel* as a mercurial. I increased the dose, till he got up to six grains of *calomel* every day, 3 at night and 3 in the morning; without ever perceiving any tendency to a ptyalism, purging, remarkable micturition, or diaphoresis. The pains, however, gradually lessened; he got up every day, recovered his appetite, got strength, and, in five or six weeks time, was able to go abroad. He halted considerably, and made use of a walking-stick; but enjoyed tolerable health, and has not since been afflicted with any complaint of this nature.

Six grains of *calomel per diem*, for near a fortnight together, may seem a very large  
dose

dose to be taken without producing the common effect of mercurials. It surprised me at the time; and I should by no means have proceeded to such a length, if experiment, conducted with some degree of caution, had not led me so far in this particular instance.

A gentleman of great eminence in chymistry had assured me, that he had found very good effects from *calomel* given in the manner above mentioned, with the *Chio turpentine*, in worm-cases, and all the diseases of children. Thinking that small doses of *calomel* would be as likely to remove a disease so deeply situated sooner than any other remedy, I had recourse to this medicine, and gave it in the manner above described.

On reflecting, however, on its effects, I found cause to suspect, that exhibiting *calomel* in the manner I had done, was using it in the most uncertain method. Most kinds of *turpentine*, I believe, are indigestible in the human stomach; the more solid their consistence, the more difficult they are to be



R *Aq. Alexit. simp.* ʒifs.

*Alexit. spir.* ʒifs.

*Vin. Antimon. gut.* xxx.

*Tinct. Theb. gut.* xxv.

*Syr. simp.* ʒj. m.

If the pain does not abate by the time this quantity is taken, I increase the dose of *calomel* to two grains one night, one the next, and thus proceed alternately. When the pain abates, the anodyne and antimonial are gradually lessened; perhaps omitted every other night, or wholly dropped. I have seldom met with a genuine *sciatica* but has yielded to this process in the space of a few weeks, and has as seldom returned.

My inducement to make trial of this method at first was, that this kind of pains are deep seated in the most fleshy parts of the human body, and to which it is extremely difficult to convey the efficacy of any medicine entire, either given internally, or applied without,

That

That mercurials, of all the medicines we are acquainted with, most certainly pervade the inmost recesses of the muscular and tendinous parts, and remove diseases which we know have in them their residence.

That, till these could take effect, it was necessary to mitigate the pain; for all painful disorders increase in proportion to the irritation attending them. The anodyne, above directed, has other properties than that of an opiate merely. Like as in Dover's famous powder, the anodyne in this composition, when duly proportioned, restrains the antimonial from exerting its usual efficacy on the stomach and first passages, and conducts it to the remotest parts of the circulation, rendering it an useful and efficacious medicine in many painful disorders.

If the disease does not yield to the dose above mentioned, I gradually increase it till some little tenderness is perceived in the mouth; but I have seldom had occasion to proceed so far, or to subject the patient to  
any



any confinement, unless in very rigorous weather. As the violence of the pain may safely be mitigated by this kind of anodyne, which is not merely a palliative, I have always thought it better to proceed with the *calomel*, in the manner above mentioned, as an alterative, than to risk any thing for the chance only of a few days speedier recovery. Formerly I have had recourse to the bark, *guaiacum*, the *terebinthinate* spirits, and other usual medicines; but seldom to the patient's benefit, or my own satisfaction. Fontanels, blisters, caustics, likewise; but with as little advantage. Of late I have trusted to the process above described, and have very seldom been disappointed.

Bleeding has not been mentioned, because in most of the cases I have seen, it was unnecessary. Physicians are seldom consulted on these cases in the beginning of the disease. In plethoric habits, this evacuation may be necessary as well as purging. Those who see the patients early, will be the best judges of the necessity of these evacuations.

# XV. *Of the Use of Tapping early in Dropsies* \*.

**T**HERE are several efficacious remedies in the hands of physicians, which are often made use of so late in the disease, that they fall into disgrace, from being applied when nothing could save the patient from inevitable destruction. Of this kind, perhaps, are blisters applied to the head. The sick and the by-standers have consented to this application, when nothing could be of use. The patient dies, and the blister to the head bears the blame, both as an ill omen from the physician, and as a barbarous application, when, in fact, it deserves the imputation of neither. The physician, well knowing the general prejudice against the application of blisters to the head, shifts off the proposal longer than is right in his own judgment, through fear lest the terror excited by such a prescription, should do as much harm as the

\* From Medical Observations and Inquiries, vol. iv.

blister could do good. As the danger increases, this very blister is then often called for by the patient's friends, when neither this nor any thing else can avail.

With what difficulty can we persuade those who are on the verge of a consumption, and the hectic symptoms just in their infancy, to leave towns for a purer air, or seek the aid of Bristol waters on the spot, while such kind of remedies afford almost a certain cure! When the lungs are inflamed and ulcerated, an incurable hectic, with all its wasting consequences, are far advanced; then, whether the physician thinks any benefit can be received or not, they fly to Bristol, when neither the water nor any other means can prevent their dissolution.

Perhaps the operation of tapping may have undergone the same fate. Few dropical patients can bear the name without apprehensions of terror; and indeed not without reason: for, of the many who undergo this operation, how few are surviving instances of its advantage!

I think

I think there is reason to suspect, that tapping has incurred some part of its disgrace, from its being delayed till it could have no other effect than procuring a very short-lived hope to the patient, at the certain expence of the small share of strength remaining.

I have endeavoured to prevail upon such patients labouring under this disease as have requested my assistance, to submit to it as early as possible, after I found that the quantity of water was such as could not be removed by medicines, without doing great violence to the constitution. There are several persons now living, whom I prevailed on early to submit to this operation. When I found the usual diuretics had no effect, and the more active purgatives did as much prejudice by weakening the whole frame, bringing on thirst, loss of appetite, debility, and fever, as they did service by the evacuation they produced; I desisted from medicine; allowed them to drink as much as thirst required; and, when the fluctuation was so evident as to render the operation safe, it was performed. In one case, one operation  
2 alone

alone succeeded: for, by diuretics and corroborants, proper diet and suitable exercise, the urine passed the kidneys freely, and the patient recovered perfectly. This was an evident *ascites*, and came on soon after a lying-in; apparently from the power of absorption being weakened beyond a speedy recovery, and the exhalant vessels being relaxed immoderately; the balance was destroyed, and a vast quantity of water was collected in a shorter time than I ever saw. All the *viscera* seemed to be sound, and none of the usual causes of dropsies from intemperance had preceded. Had we persevered with strong purgatives or diuretics much longer, the tone of the absorbent vessels would perhaps have been so far weakened, as to have rendered tapping, or any other means, ineffectual.

Another case was, in a single woman of about thirty-five years of age; the disease succeeded a tedious lingering fever, attended with great thirst; and very large quantities of thin liquors had been poured down, without discretion.

Appre-



Apprehending the distemper proceeded from the diminished power of the absorbing vessels, the redundancy of fluid, the general debility of the whole frame; very few medicines, except cordials, were given, till she was full enough to be tapped. This was happily performed; but she soon filled again. The operation was repeated. The medicines ordered for her now began to take effect. The urine was increased, her strength returned, and she left the town perfectly recovered,

If we consider, that this operation is far from being one of the most painful, and that, if the fluctuation is sufficiently evident, and the belly moderately tense, it is one of the safest, it seems to me, that we have nothing to fear, either in respect to ourselves or our patients, if we recommend it as early as possible.

If I am called to a patient tending to a dropsy, the belly beginning to fill, the urine passing in small quantities and high-coloured, the appetite failing, and thirst in-  
creasing,

creasing, with the loss of flesh in the upper parts of the body ; I have recourse to such diuretics, purgatives, and corroborants intermixed, as the state of the case and the nature of its causes indicate. The preparations of squills, the neutral and alkaline salts, the *terebinthinate* balsams, afford many efficacious compositions. The purgatives are known to every one. If, by a reasonable perseverance in this course, no considerable benefit accrues ; if the *viscera* do not evidently appear to be obstructed and unfit for the future purposes of life ; if the complaints have not been brought on by a long habitual train of intemperance, and from which there seems little hope of reclaiming the patient ; if the strength and time of life are not altogether against us ; I desist from medicine, except of the cordial restorative kind ; and let the disease proceed till the operation becomes safely practicable : when this is done, by the moderate use of the warmer diuretics, chalybeates and bitters, also the preparations of squills in doses below that point at which the stomach would

be affected, I endeavour to prevent them from filling again.

If we recollect what happens in the cure of several incysted dropfies, we shall find the opinion here advanced confirmed. Divers of these are cured by puncture; sometimes once only; sometimes the operation is necessarily repeated. You will remember many cases, I doubt not, of the dropfies of the *testis* or *tunica vaginalis* particularly. I can recollect several within my own knowledge; some that have required but once tapping, others repeatedly, and yet at last have remained perfectly cured.

Should you, gentlemen, be of opinion, that these remarks are not ill founded, I have no doubt but, from the share of business which passes through your hands, the public will receive such confirmations as may tend to dissipate that dread of tapping, which, I am satisfied, is one great cause of the disgrace under which it labours, and is alike injurious to our art, and detrimental to the patient.

Before

Before I quit this subject, permit me to mention a method of scarification that has often succeeded in anasaruous swellings of the legs and thighs; at least, it has so far succeeded, as to draw off large quantities of water, without either so much pain or danger as in the common way by incisions. These are always painful, and, if large, are dangerous, from the known difficulty of healing wounds in anasaruous habits.

I generally order this operation to be performed with the common scarificator used in cupping, and the instrument to be placed so as to make the wounds transversely. If the skin is thick, the lancets may be set so as to make deeper, and consequently wider incisions. By this method, a large quantity of water will often drain from the legs and thighs, without risk of inflammation, or deterring the patient from a repetition, if necessary. To proceed with as much safety as possible, I commonly order the instrument first to be applied about the middle of the calf on each side the leg, and either to one leg only, or to both, as

occasion requires. The application of glasses, either to raise the skin, or promote the discharge afterwards, is unnecessary. The instrument is gently pressed upon the skin till a surface is formed sufficiently flat to admit the lancets in the scarificator to take effect equally. By making these little openings in the skin transversely, they give vent more freely to the fluid, and are longer before they unite.

Should it be asked, in what cases this application is proper; it is answered, that in all anasarcaous habits, where the *serosa colluvies* gains upon us fast, and the skin is so stretched as to threaten a rupture, or inflammation and gangrene, much mischief may be prevented by these means. Likewise, where the breath is extremely affected in such habits, a temporary relief may, in this manner, often be obtained, in order to give a fair chance to remedies administered internally. Your own experience, Gentlemen, will suggest to you many other uses of this operation.



XVI. *Remarks on the Use of Balsams in the  
Cure of Consumptions* \*.

To the MEDICAL SOCIETY in LONDON.

GENTLEMEN,

SO much has already been said by different Authors on the subject of consumptions, and the history, progress, and usual methods of treatment, are so well known, that it may seem almost presumption to offer any remarks to you upon this disease. And indeed some apology may be necessary when I acquaint you, that I have no new method of cure to propose, nothing, I fear, that will conduce more effectually to the relief of this distemper, than the remedies you are already acquainted with. My view in submitting these remarks to your consideration, and if not disapproved by you to the public, chiefly aims at preventing inconveniences that may arise to consumptive patients by the use of some medicines vul-

\* From the Medical Observations and Inquiries, vol. iv.

garly applied to the cure of pulmonary diseases, and which, under certain circumstances, are not only unsuitable, but frequently injurious.

An idea that all balsams are healing, and that in all ulcers, not excepting those of the lungs, they are indicated, has so greatly prevailed, that to doubt of its propriety, would seem to betray a want of physical knowledge. Yet I cannot but suspect, nay, more than suspect, that this idea has been the means of precipitating too many of these unhappy invalids prematurely to their grave.

The term *balsamic*, I own, includes a vast variety of different substances. A solution of *Sperma ceti*, nay, sometimes oil mixed with water, by the means of a mucilage, is stiled by some a balsamic, as well as a solution of balsam of *Peru*, *Copaivi*, *olibanum*, and other heating resinous bodies: but there is a vast difference between these. The former, if free from rancidity, are properly emulsions and antacid. The latter are li-  
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terally

terally balsamics, all of which are more or less pungent and acrimonious. Let us just take a view of the principal articles of this kind in the *Materia Medica*, as they are ranged in the *Pharmacopoeia*. They are chiefly the following : *Balsamum Copaiva*, — *Peruvianum*, — *Tolutanum*, — *benzoinum*, — *gummi ammoniacum*, — *myrrha*, — *olibanum*, — *opobalsamum*, — *styrax*, — *terebinthina*. The officinal preparations are, *balsamum Locatelli*, — *sulphuris*, — *terebinthinae*, — *traumaticum*. Some others I may perhaps have overlooked, but excepting the *guaiaicum*, *mastiche* and *balsamum guaiacicum*, I think I have seen, at one time or other, all the rest made use of, and in full doses, in the cure of consumptive diseases, where, if it was not evident, there was at least strong reason to suspect the lungs were ulcerated.

For the sensible qualities of these substances, I shall appeal to Dr. Lewis's History of the *Materia Medica*, and to the substances themselves, and from thence endeavour to point out the effects they are most likely to produce on the human body.

*Balsamum Copaiva*, says Dr. Lewis, has a bitterish biting taste, not very intense, but durable in the mouth; and quotes Fuller as asserting it to be manifestly warm and bitter; and that it purges when taken in a large dose, viz. two or three drachms. This medicine, however, Fuller recommends in dry deep coughs, coughing up of blood and pus.

*Balsamum Peruvianum*; a very hot pungent taste: it is one of the hottest of the natural balsams.

*Balsamum Tolutanum* has an agreeable warm sweetish taste, very slightly pungent, and not accompanied, like that of most of the other balsams, with any nauseous relish.

*Benzoin* has very little taste, impressing on the palate only a slight sweetness: it imparts by digestion to water, a slight pungency.

*Ammoniacum* has a nauseous sweetish taste, which is followed by a bitter one.

*Myrrba*; a lightly pungent, very bitter taste; nauseous on the palate.

*Olibanum*; a bitterish somewhat pungent taste.

*Opobalsamum*; a bitter, acrid, astringent taste.

*Styrax*; of a mild taste, of no great heat or pungency.

*Terebinthina Chia*; of a warm pungent bitterish taste.—All the turpentine are hot, stimulating corroborants or detergents. So far Dr. Lewis,

*Balsamum Locatelli* is composed of oil, two parts; turpentine and wax, each one part: it participates therefore of the qualities of the turpentine increased by heat. The red sanders only give it colour, and some little smell.

*Balsamum sulphuris* is a pungent acrimonious liquor, if made from sulphur only; but when it is made either with oil of anise-seeds



seeds or turpentine, the heat and acrimony are much increased.

*Balsamum traumaticum* is a tincture of *benzoin*, *styrax*, *balsam of Tolu*, and *socotorine aloes* in spirits of wine. From the nature of the ingredients and the *menstruum*, it is evidently heating.

An opinion seems to have prevailed amongst mankind universally, that these kind of gummi-resinous substances applied externally, promoted the healing of wounds and ulcers without exception. They early found, that it was necessary, in order to heal, to defend the parts affected from the external air; that the juices of plants alone, were insufficient to form a plastic body; that unctuous applications easily melted, but that these tenacious yet pliant bodies afforded the most lasting defence. By degrees they apprehended that each balsam was endued with distinct properties. Hence they began to form numerous compositions, plasters, balsams, ointments, without end, which a more enlightened

lightened surgery has at length greatly diminished.

Remedies which appeared to assist in healing wounds externally, were soon apprehended to have similar effects internally administered in diseases proceeding from, or attended with ulcerations, or in wounds of any internal parts: and this apprehension seems to have introduced these and many other substances supposed to be possessed of balsamic qualities, into the train of phthical remedies, in all degrees and all conditions of the distemper. That this is the fact, I doubt not but you are, from your own observations, very fully convinced.

It will be necessary to examine with what propriety these ideas have been adopted: let us begin with observing what effects these medicines have when applied externally; trace them cautiously in internal application; and then endeavour to judge impartially of their real virtues.

Balsamics

Balsamics and vulneraries are nearly allied, in our conceptions of these bodies. Substances that warm and stimulate the solids, and prevent a tendency to putrescency in the juices. A little heat, some small stypticity, something agglutinant, must all concur. And these are mostly united in the balsams; some containing more, some less, of these respective properties.

If, in an inflamed state of an ulcer, in a young and vigorous constitution, a warm stimulating gummy-resin is applied, pain, heat, inflammation will ensue, fluxion to the pained part will be great, a very considerable discharge will follow, consisting of the juices emitted from the wounded vessels, and the vessels themselves dissolved by heat and putrescence. If these are excessive, the detriment to the sick will be in proportion to the degree of the discharge and the part affected. The same medicines applied to a cold, serous, phlegmatical habit, in an advanced age, will be just sufficient perhaps to produce such effects as would be deemed perfectly salutary; that is, bring on a proper

per digestion, the foundation of a perfect cure.

In properly tempering the heat and stimulating qualities of balsamic applications, and adjusting them to the age, habit, and qualities of the patient, consists no small part of the skill necessary in this part of surgery; as I believe will be allowed by the most experienced of that faculty.

Supposing that these remedies have similar effects when internally exhibited, what are physicians to expect from medicines endowed with these properties in ulcerations of the lungs?

If they may be supposed to pass the stomach, and other offices of digestion, unaltered, will they not produce the like effects? Certainly they will. They will stimulate; and this, in a great degree, in proportion to their sensible qualities: for we know of very few substances that discover much activity on the organs of smell and taste, which do not quicken the pulse; and whatever quickens  
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the pulse, occasions a quicker transit of the blood through the lungs ; and consequently, the motion of this organ is more frequently reiterated.

If the medicine can be supposed to have any specific effect on the diseased part, it must be to produce the effects already enumerated. If the subject is young and vigorous, the discharge of fluids, and dissolution of the solids, will be in proportion to the activity and heat of the medicine, and the temperament of the sufferer.

I am not more averse to speculative disquisitions, which have only for their object the establishment of an opinion, than you are. But I persuade myself you will have patience with me in these researches. It requires perhaps much more abilities than I am master of, to eradicate even a trifling error once received : but this I think of some magnitude.

It seems not improbable, but that an opinion of some healing qualities resident in  
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this class of medicines, may have been strongly impressed on the minds of many persons who practise physic, from the injudicious encomiums given of many such kind of drugs and compositions, by some of the Dispensatory writers. Fuller's commendation of the balsam of *Copaivi* in such a tendency to inflammation, as must certainly accompany a dry deep cough, or coughing up of blood and pus, must undoubtedly have made such impressions, and may serve as one instance, among many others that might be adduced, of the dangerous tendency of indiscriminate praise. I do not produce this instance of Fuller's mentioned by Dr. Lewis, as including this gentleman in the censure. Dr. Lewis produces it only as Fuller's doctrine, which most certainly deserves reprehension, as a medicine so pungent and heating cannot be supposed safe, much less beneficial, in a disease that requires a very different treatment.

From an attentive consideration of the manner in which this class of medicines has probably been introduced into the cure of  
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pulmonary diseases, it seems to me, that an opinion of their virtues and efficacy in healing external wounds and ulcers, opened a way for their admission internally for similar purposes ; but how well or ill this opinion is founded, that medicines capable of heating, stimulating, quickening the pulse, are likely to abate heat, and lessen irritation, upon which the healing of all internal ulcers greatly depends, I think will appear from the preceding remarks.

And if we take a concise view of the rise and progress of the *phthisis pulmonalis*, we shall perhaps be more confirmed in our sentiments, that all medicines possessed of heating stimulating qualities, are in general improper in the treatment of it.

This disease, for the most part, takes its rise from some accidental cold occasioning a cough. This cough neglected, by its frequency and force, confirmed the inflammatory tendency that first seized some particular point of the lungs. These symptoms being neither attended with pain, much fever,

ver, or loss of appetite or strength at first, are still farther neglected, till by their violence, some portion of the lungs is so far affected, as to become unfit for the use of circulation; the inflamed vessels being either dissolved into pus, or forming with the juices they contain a *scirrhus*, or other immoveable obstruction.

If this obstruction is small, perhaps it remains without much increase, if proper care is taken, during the patient's life. If it is large, and a considerable portion of the lungs is affected, the disease is every moment increased, whether it be inflammation tending to suppuration, or to form a scirrhus hardness, and thereby rendering a portion of the lungs impervious: for as the same quantity of blood must necessarily pass through the lungs, now a part is obstructed, as was wont to do in time of health through the whole, it is easy to conceive, that the action and reaction of the fluids and solids must be increased more than consists with the safety of this organ; and this in proportion

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tion to the extent and situation of the part affected.

And hence in part proceed those flushings in the cheeks, that heat in the palms of the hands, or feet, or both, which are generally perceptible in consumptive persons, in the early periods of this distemper; and which accompany them throughout, only as they seem at length obliterated by more grievous sufferings.

I omit to take notice of the many other causes that produce consumptions: for when once a single point of the lungs is obstructed, or the smallest ulcer formed, the disease becomes alike formidable, the age and habit of the patient, and the degree of inflammation or ulceration being the same, whatever may be the cause.

If then, from the first beginning of this disease to its conclusion, the *momentum* of the blood in the lungs becomes greater in proportion to the obstruction, and that the effect of this increased *momentum* is an increase

crease of the obstruction; and as the medicines above mentioned have a tendency, some more some less, according to their different degrees of activity, to increase this *momentum*, ought we not to be extremely diffident in applying them in such cases, by whatever authority they are recommended?

Perhaps it will be alleged, that balsams, in certain stages of this disease, especially where there is a manifest ulceration, and great quantities of pus are formed, must be of use as antiseptics. I will not deny but they may be possessed of this property, as most heating aromatics and bitters seem to be. But supposing the whole of this antiseptic efficacy could be conveyed unimpaired to the part affected through all the changes they are liable to in the course of digestion, still they would be active stimulants; and, whatever effect they might have on the juices, would stimulate the solids to more frequent and injurious contractions.



It is most probable, however, that much of this heating quality is expended before it reaches the part affected ; whilst it is evident, that most, if not all the stimulating tribe of medicines, whatever effect they produce on certain parts, as the *cantharides* on the urinary passages ; yet exert a part of their active qualities on the nerves near which they pass, so as in some degree to accelerate the motion of the blood.

Should it be farther alleged, that reasoning is in vain where many facts, much authority, and general usage is against me, I admit the full force of this allegation ; allow that many facts as strong as Fuller's may perhaps be produced. But as I well know the difficulty of ascertaining the effect of any medicine by just experiments, I cannot but doubt at least of the inferences, when my own senses and dispassionate reasoning are against them. I am not unacquainted with the influence of general prejudice, nor with the difficulties that oppose themselves to us, in endeavouring to surmount them. Early prepossessions confirmed by general con-

conformity of opinion, in favour of balsams, cannot soon be changed or eradicated.

All that I hope for from this essay, is, to put young practitioners upon their guard in respect to these kind of medicines in the treatment of consumptions. I think I have seen much detriment arising from them, and very seldom any benefit. I believe the practice was first adopted, on mistaken principles, and followed too generally without consideration. And it seems not improbable, but the ancient practice of embalming, which is supposed to have been principally performed by the means of balsams, may have contributed not a little towards establishing a general prepossession in their favours; and that many might infer from their efficacy in preserving dead bodies, they were endued with properties capable of preventing the corruption or decay of the living.

XVII. *Remarks on the Cure of  
Consumptions* \*.

TO the MEDICAL SOCIETY in LONDON.

GENTLEMEN,

**I**N a former paper, I suggested some doubts I had entertained respecting the use of balsamic medicines, strictly so called, in the cure of consumptions, and offered some conjectures in regard to their first introduction into internal use, and their application to pulmonary diseases in particular. Upon the whole, I am still of opinion, that their useful efficacy in these disorders is much to be suspected, and that an indiscriminate use of medicaments of this class, has rather a tendency to increase than mitigate the symptoms attending a genuine *phthisis pulmonalis*.

Whilst I am endeavouring to excite suspicions against what appear to me the *lae-*

\* From the Medical Observations and Inquiries, vol. iv.

*dentia* in this distemper, I should think myself fortunate, could the review of several years experience afford any useful hints to those whom I wish to aid, and to whom these remarks are particularly addressed, the young practitioners.

When we consider the structure of the lungs, the tenderness of their fabric, the multitude of vessels of which they consist, the importance of their use, the many accidents they are unavoidably exposed to, and, in comparison of many other parts, their insensibility to immediate lesion, we shall be much more surprised there are so few persons die of consumptions, great as the number may seemingly appear \*, than that so many perish by this distemper.

To enumerate all the causes that are capable of producing a *phthisis pulmonalis*, is

\* In this city the weekly bills are supposed to exhibit a tolerably exact account of those who die of the respective diseases mentioned in that list. But I am informed, that the article of Consumptions includes generally all those who die of any lingering disease, and are much emaciated; by which the list is vastly enlarged beyond what it ought to be, to the reproach of our country; foreigners imagining that this disease is much more frequent amongst us, than it is in reality.

not my intention ; but to point out the necessity of attending to its commencement, in order to prevent its progress. The measles, and other inflammatory diseases of the breast, to which children, as well as others, are exposed, often lay the foundation of consumptions : so likewise will colds, the suppression of some salutary discharge, scrophulous and venereal affections, and many other causes, all which will operate more certainly and speedily in bringing the distemper to a fatal conclusion, in proportion as a certain tenderness in the fabric of the lungs, an hereditary *tabes*, and other circumstances, concur : for, to those who are acquainted with the animal oeconomy, it is rather a matter of wonder how the strong and robust escape affections of the lungs, surrounded as we are with so many causes capable of producing these affections, than that persons of a certain make, and particular delicacy of constitution, are so subject to pulmonary diseases.

We cannot, I think, be too industrious in propagating the following doctrine : That the time at which a physician can be  
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of most use in the cure of consumptions, is at their first beginning. The slightest catarrhal defluction ought not to be neglected, if it does not go off in a few days.

The beginning of most consumptions is a cough, more or less violent. This cough is produced either by a thin saltish defluction, irritating the membrane that lines the *trachea*, so as to bring on a general spasm of all the parts, in order to dislodge and discharge the irritating matter; or else, by an inflammation of some part of the lungs or *bronchiæ*, produced by one or other of the general causes of inflammation.

If the catarrhal cough is neglected, or is repeatedly increased by the causes that first produced it, this will be sufficient to bring on an inflammation, which, if not removed, terminates in the usual manner of inflammations; either by resolution, in which case the lungs receive but little harm; or by supuration, in which the mischief, however small at present, does not fail to be productive of lasting and injurious consequences;

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proportioned to the extent of the injury, and the condition of the sufferer, in respect to predisponent causes.

If the inflammation terminates neither by resolution nor suppuration, it often leaves a scirrhus hardness, whereby this particular part of the lungs, however small and confined, becomes of little or no use in the œconomy of this organ ; but by occasioning an obstruction of circulation and respiration in one single point, subjects the sound parts of the lungs to greater labour, as was before observed\*.

From hence it is at least evident, that the utmost care should be taken at the commencement of this disease. The most trifling cough, if it continues, may either advance gradually till it ends in immediate mischief, or may leave such impressions as may subject the patient to perpetual returns : a cough therefore in children, or young persons, or in persons of a certain make at any time of life, ought speedily to be cured.

\* See a former paper on this subject.

Perhaps it will be needless to suggest the means of doing this most safely: but there is one part of management necessary to be observed by those who are about children thus affected, that cannot be too strongly insisted on by the physician, and that is, the necessity of proper diet, proper likewise in respect to quantity. If ever an extreme attention to regimen is necessary, it most certainly is so to persons affected with coughs, as will perhaps be more fully mentioned; but to children it is still more so, both as they are greater sufferers by improper diet, and have less command over their own appetite and inclinations.

For if a large quantity of the best chyle adds speedily to the present stock of blood, as all must pass through the lungs, this temporary increase of quantity will add to their irritation, the quantity itself being a *stimulus*. But if the chyle thus increased has not been properly digested, either on account of the quantity or kind of food, the mischief will be greater. And this position will, I believe, be found uniformly true through

through every stage of pulmonary diseases, and will evince the necessity of giving very explicit and peremptory orders in relation to diet, and the duty of those who attend the sick in this distemper.

I know, Gentlemen, that you, as well as myself, often have occasion to look back at the fatal neglect, committed both by the sick themselves, as well as those who ought to have had their future health more at heart. With what ease would many of the most incurable consumptive cases have been prevented, or cured, at their first commencement? A person whose emaciated figure strikes one with horror, his forehead covered with drops of sweat, his cheeks painted with a livid crimson, his eyes sunk, all the little fat that raised them in their orbits, and every where else, being wasted; his pulse quick and tremulous, his nails bending over the ends of his fingers, and the palms of his hands as dry as they are painfully hot to the touch; his breath offensive, quick, and laborious; his cough incessant, scarce allowing him time to tell us, that  
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some months ago he got a cold, but he knew, perhaps, how he got it ; he neglected it for this very reason, and neglected every means of assistance, till the mischief was become incurable, and scarcely a hope left of palliation. You see multitudes of such objects daily, and see them with a mixture of anger and compassion for their neglect and their sufferings. Excuse me for trespassing in this manner on your time and your humanity. Though it is not in your power to prevent all these sacrifices to ignorance and inattention ; yet, if the faculty combine in prompting their fellow-citizens to necessary care, and prompt them to suffer no slight beginnings to pass unregarded, however they may be acting against their own interest, they will have the satisfaction of contributing to the preservation of many a useful life ; for, perhaps, among those who perish by consumptions, there are many who, in respect to the excellencies both of body and mind, have given indications of becoming conspicuous ornaments of humanity.

When



When a cough begins, if the patient is very young, let the quantity of diet, especially solids, be lessened; let the deficiency be made up with warm thin suppers. Barley-water, milk and water, thin gruel, the lightest broths, such things of this kind as the age and condition of the patient admit.

If there be much heat, or any pain in the breast, bleeding will be indispensably necessary. The quantity to be taken away, and how often repeated, must be determined by the symptoms, the patient's age, habit, pulse, and other circumstances.

In respect to medicines, the most demulcent and cooling are indicated; and when the symptoms of inflammation are abated, gentle anodynes will be useful. Every thing of a heating, irritating nature, such as the balsams, should be avoided; and even the expressed oils of almonds and olives are often to be suspected, and used with caution, as they are seldom totally free from some degree of rancidity, than which scarcely any thing is more irritating and disgusting. I have  
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known the common doses of *nitre*, the saline mixture, and other cooling salts, increase a cough by irritation; so that even these should be administered, when necessary, rather in small doses, and frequently. The common emulsion made with good fresh sweet almonds, is a very proper vehicle for the several remedies indicated in this complaint; but if the almonds are not fresh, or are intermixed with the bitter, as is too frequently the case, they are injurious.

Fresh white poppy seeds, in the proportion of half an ounce to a pint of Bristol or pure water, make an excellent emulsion and unexceptionable; and these may be raised in any quantity both at home and in our own colonies.

If the thin copious defluention lessens, and the liquid grows thicker, and yet comes up without difficulty, the cough will abate, and gradually cease entirely. It must depend upon the judgement of the prescriber to know when and to what extent anodynes are to be used. I believe they are never safe at  
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the beginning of a cough, till by proper methods the tendency to inflammation is first abated, except where the cough is altogether of the spasmodic kind, as in some hysteric cases, or when it proceeds from acrimony heretofore discharged by an issue, an ulcer, or erosions on the skin, and imprudently suppressed; or from gouty affections; in which cases anodynes are undoubtedly of use: but in coughs arising from suppressed perspiration, or an inflammatory diathesis, as in the measles and epidemic constitutions, in such cases, anodynes are seldom to be allowed, unless it be to obtain a truce from temporary violence.

The mischiefs that have proceeded from *Godfrey's* cordial, *Bateman's* drops, *Squire's* elixir, and other heating anodynes in the hands of ignorance, are scarcely to be enumerated.

When by a proper cooling regimen, and evacuations, the inflammation accompanying the cough is abated, then small doses of anodynes joined with the medicines  
above

above mentioned, to such a quantity as to mitigate a fruitless, incessant cough, are very beneficial. If this first period has passed over without any attention paid to the disorder, the cough becomes more harsh and dry; slight lancinating pains are now and then felt, darting, as it were, through the substance of the lungs, from some central point in the cavity of the *thorax*; commonly from under one of the breasts, sometimes exactly in the middle. A soreness is complained of that is almost continually felt: this is augmented much by the cough, but not to such a degree as the pleuritic stitches. It is not unusual under these circumstances to see the thin frothy phlegm which is discharged by coughing, streaked with blood; sometimes a small spoonful, or two or more, are coughed up at some certain time of the day. It is not often that much larger quantities are thrown up in this state of the disease, unless the patient is very plethorick, or the fabric of the lungs extremely tender, or the cough is incessant.



The same indications point out a similar process, in respect to cure. To withdraw as much nourishment as can be done without the risk of suffering from inanition; to supply the most cooling nourishment, and the most easily digested, in moderate quantities, and the more frequently; to bleed in small quantities repeatedly; judging of this necessity not from the appearance of the blood alone, for this will often continue fizy, till more is taken away than is compatible with the patient's situation in other respects. For if we lessen the *vires vitæ* by inanition too much, a disease then takes place, which probably will increase our difficulty, that is debility of the solids, and the consequent vitiation of the fluids. The pulse, the heat, the pain, cough, respiration, strength and age of the patient should all be taken into consideration. Many persons live free from complaints with fizy blood. The condition therefore of the blood singly ought not to determine us; we should examine all the evidence.

It



It seems unnecessary to specify what I mean by light cooling nourishment: it may not however be improper to observe that wine, or any other fermented spirituous liquors, are improper alone, and malt liquor, however weak, seems very generally injurious; flesh-meat, or indeed animal food of any kind, seems under these circumstances improper. Spices of all kinds in any quantity, and indeed every thing possessed of much piquancy. Whey, either from goats or cows, milk, butter-milk, milk and water, light broths, and all the farinaceous preparations are to be recommended, but still remembering to advise caution in respect to quantity. For if a larger quantity of the best adapted nutriment is taken in at once than can be well digested, the chyle, so far from affording that bland and balmy fluid to the blood, that must qualify it for the offices of nutrition, communicates a sharpness that defeats our expectations. It matters very little, both in this and many other diseases, what quality the food is of, if the quantity likewise does not correspond to the powers of digestion. I have not the least

doubt but this is likewise your opinion; and that you enforce it in your directions: but that this is the case with practitioners in general, may perhaps not be so certain.

Under such a situation as is above described, the methods pointed out seldom fail to abate the fever and pain, lower the pulse, and ease respiration; the discharge then becomes thicker, and the cough, instead of being violent and continual, just comes on when a quantity of well digested phlegm solicits its discharge, and step by step usual health returns.

To such convalescents, one cannot but recommend the utmost discretion in respect to their conduct. A violent cold, a debauch, long confinement in populous cities, and other similar causes, will soon bring back the same symptoms, which, if frequently repeated or neglected, bring on a more formidable distemper, from which if the patient recovers, he will have much to attribute to the ability of his physician.

In the farther progress of this distemper medicines of a different class are found of advantage: the bark, elixir of vitriol, *Bristol* and other waters, a total abstinence from animal food, and other methods of treating consumptive diseases, have their uses. Should you think these remarks not unworthy of your notice, I shall endeavour to collect such farther remarks as have occurred to me on this subject; and submit them to your consideration.

I am, &c.

XVIII. *Some Account of the Cortex Winteranus, or Magellanicus, by John Fothergill, M. D. F. R. S. with a botanical Description by Dr. Solander, F. R. S. and some Experiments by M. Morris, M. D. F. R. S.\**

TO the MEDICAL SOCIETY in LONDON.

GENTLEMEN,

**T**HOUGH the improvement of the art of healing is your immediate object, yet I do not perceive from the plan of your institution, that you propose altogether to exclude such parts of natural history as relate to the *Materia Medica*, and which may tend to explain what has hitherto been obscure, and thereby created confusion. Presuming therefore that the following account of an article well known by name, and by this chiefly, may be conformable to your intentions, I submit it to your consideration without any further apology.

\* From the *Medical Observations and Inquiries*, vol. v.

When

When the Dolphin, Captain Wallis, returned from the South Seas in 1768, the officers brought with them a considerable quantity of the genuine bark, called Winter's Bark. I call it the genuine bark, to distinguish it from the *Canella Alba*, which has long usurped the name of Winter's Bark, though it is very unlike in its appearance and sensible qualities, the produce of a different tree, and which is brought from a very different part of the globe.

Captain Wallis soon after his return gave a small branch of the tree to his friend, Captain Middleton, who was so obliging as to make me a present of it. Some of the bark I had received before from an officer of the Dolphin. These circumstances induced me to wish some such account of this bark might be laid before the public, as is here proposed to you, that the true *Cortex Winteranus* of the Magellanick Streights might for the future be clearly distinguished from the *Canella Alba*, the produce of Jamaica and some other West-India islands,



The specimen I had received was so far perfect, that it enabled the late very eminent draughtsman G. D. Ehret to make an elegant drawing of it, with a tolerably exact description of its botanical characters.

But as I wished to lay before you the clearest account I could collect of this subject, I prevailed upon Dr. Solander to examine the specimen, description, and the drawing I had procured, and to favour me with such a history and description of it as might enable botanists to place the tree in its proper rank. At the same time I requested Dr. Morris to lend his assistance in a chemical analysis of this substance.

The following is the botanical history and description of the *Winterana Aromatica*, by Dr. Solander :

The tree which produces the Winter's Bark was utterly unknown to the Europeans till the return of Captain John Winter, who, in the year 1577, sailed with Sir Francis Drake, as commander of a ship called the  
Elizabeth,

Elizabeth, destined for the South Seas; but immediately after they had got through the Streights of Magellan, Captain Winter, on the 8th of October 1578, was obliged by stress of weather to part company, and to go back again into the Streights, from whence he returned into England in June 1579, and brought with him several pieces of this aromatic bark, which *Clusius*, in his *Exot.* p. 75, calls after him *Cortex Winteranus*, or Winter's bark.

Several authors have mentioned it since in their botanical works; but all they have said has been copied from *Clusius*, e. g. *Dalechamp Hist.* p. 1818. *Parkinson Theatr.* p. 1652. *Baubin Pin*, 461. *Jonston Dendr.* p. 232.

No more was heard of this bark \* till the Dutch fleet under Admiral Van Nort returned

\* In the account of Amada's and Barlow's discovery of Virginia, 1584, it is said that they found there "*Black Cinnamon*, of which Mr. Winter brought from the Streights of Magellan." See *Hackluyt Voy.* vol. 3. p. 246, which is the bark of a very different tree. *Pomet*, in his *Mat. Med.* p. 130, imagined our Winter's Bark to be the same with the *Canella*.  
Cinna-

turned from the Streights of Magellan, in the year 1600; the author of their voyage calls this tree “*Lauro similis arbor licet procerior, cortice piperis modo acri et mordenti.*” *De Bry. Ind. Occid. vol. 9, p. 18.*

Afterwards all the navigators who passed through the Streights of Magellan took notice of the tree, on account of the usefulness of its bark; but none furnished any description that could make it botanically known, before Mr. George Handasyd came from the Streights of Magellan, 1691, and brought with him some dried specimens, which he gave to Sir Hans Sloane, and are now preserved in the British Museum, Hort. Sicc. 8. fo. 100. 130. 148. 332. fo. 46. From these specimens, and the account Mr. Handasyd gave of this tree, Sir Hans Sloane drew up a history, and gave a figure in the

*Cinnamomea*, *Brown Hist. Jam. p. 275, fo. 3.* *Catesby Carol. vol. 2. p. 50, 150*, which grows in the West-Indies, between the tropics; and is called by the druggists *Canella Alba*. This error has been followed by most of the modern writers, and the two trees proposed under the same manner, viz. *Winterania Canella*. *Linn. Sp. Pl. 638.*

Philo-

Philosophical Transactions, 1693, No. 204,  
p. 922, t. 1. “Periclymenum rectum,  
“foliis laurinis, cortice acri aromatico.”

Still the systematical botanists could not give it a place in their catalogues, being unacquainted with its flowers and fruit.

The following description and annexed figures, which are taken from the specimens brought by Captain Wallis from the Streights of Magellan, and the observations made by us \*, during our stay in Terra del Fuego, in the Streights le Maire, I hope will satisfy the curious, and enable botanists to refer it to the proper classes of their systems. It seems as if the trees in the Streights of Magellan, near the sea coast, were stunted, perhaps from the high winds, and have smaller leaves than those upon Terra del Fuego, where again the flowers were not so much expanded as in the Streights of Magellan. This last difference may be occasioned by the season, as the flowers on Terra del Fuego were seen in the month of January,

\* Joseph Banks, Esq. and Dr. Solander.

and in the Streights of Magellan in the month of March.

*The Winter's Bark-tree, Winterana Aromatica*, is one of the largest forest trees upon Terra del Fuego; it often rises to the height of fifty feet. Its outward bark is on the trunk grey and very little wrinkled, on the branches quite smooth and green.

The *branches* do not spread horizontally, but bend upwards, and form an elegant head of an oval shape.

The leaves come out, without order, of an oval elliptic shape, quite entire, obtuse, flat, smooth, shining, of a thick, leathery substance, evergreen, on the upper side of a lively deep green colour, and of a pale bluish colour underneath, without any nerves, and their veins scarcely visible; they are somewhat narrower near the foot-stalks, and there their margins are bent downwards.

In general, the leaves are from three to four inches long, and between one and two  
I broad;



broad; they have very short *footstalks*, seldom half an inch long, which are smooth, concave on the upper side, and convex underneath. From the scars of the old footstalks the branches are often tuberculated.

The peduncles, or footstalks for the flowers, come out of the *axillae foliorum*, near the extremity of the branches; they are flat, of a pale colour, twice or three times shorter than the leaves; now and then they support only one flower, but are oftener near the top divided into three short branches, each with one flower.

The *bracteae* are oblong, pointed, concave, entire, thick, whitish, and situated one at the basis of each peduncle.

*Calix*, or *flower-cup*, it has none; but in its place the flower is surrounded with a *spathaceous* gem, of a thick, leathery substance, green, but reddish on the side which has faced the sun: before this gem bursts, it is of a round form, and its size is that of a small pea. It bursts commonly so that one  
side

side is higher than the other, and the segments are pointed.

The *corolla* consists always of seven petals, which are oval, obtuse, concave, erect, white, have small veins, and are of an unequal size, the largest scarcely four lines long; they very soon fade, and drop off almost as soon as the gem bursts.

The filaments are from fifteen to thirty, and are placed on the flat end side of the receptacle; they are much shorter than the petals, and gradually decrease in length towards the sides.

The *antherae* are large, oval, longitudinally divided into two, or as if each was made up of two oblong *antheras*.

The germina are from three to six, placed above the receptacle, turbinated, or of the shape of an inverted fig, flat on the inside, and somewhat higher than the stamina; they have no styles, but terminate in a stigma,  
ma,









na, which is divided into two or three small lobes.

The fruit I have never seen in its perfect ripe state, but can conclude from the unripe ones, which I saw in abundance, that each germen becomes a separate seed-vessel, of a thick, fleshy substance, and unilocular: in each I could plainly discern the rudiments of three, four, or five seeds.

#### EXPLANATION of the FIGURES.

Obs. All but Fig. 1. are magnified.

Fig. 1. The spathaceous gem, after it is burst open.

2. The same.

3. The same (*a*) with the corolla (*b*) remaining within it.

4. One of the petals spread out.

5. The stamina (*a*) and the pistilla (*b*) after the gem and the corolla are taken away.

6. The



6. The outside of an anthera (*a*) with its filament (*b*).
7. The inside of the same.
8. The germina (*a*) situated on the center of the receptacle, after the stamina have been removed; the lobated stigma (*b*).
9. The convex, or outermost side of a germen (*a*) with its stigma (*b*).
10. The inside of the same.
11. A germen cut open longitudinally, so as to shew the rudiments of the seeds.
12. A germen cut through transversely.

To this very accurate history and systematical description by Dr. Solander, I take the liberty to subjoin an extract of a letter from Captain Wallis, relative to this subject, as it contains some particulars not unworthy of being preserved in this account.

“ I met,

“ I met (says Captain Wallis) with the Winter's bark at Port Famine, in the Streights of Magellan, in lat. 53. 30. south, and 70. 00. west longitude from London. The country is as mountainous as the Alps, and of course the tops of them ever covered with snow.

“ The first trees we met with was on Christmas-day, 1766, which is midsummer in that country. The tree had no blossom, nor appearance of any at that time. We continued at this place about a fortnight, to wood and water, during which time the surgeon, with the assistance of the ailing people, gathered a pretty large quantity of the bark.

“ The trees were of various sizes, according to the soil they grew upon, and their situation. Those near the sea, and in rocky ground, were scrubby, the bark sticking close to the wood, and had a dirty look; those on plain ground and sheltered were straight and tall, rising to thirty or forty feet, and as thick as a middle-sized man. The

E c

bark

bark smooth, and somewhat resembling the horse-chestnut. The trees are exceedingly beautiful; and there were abundance of young ones growing under them, from an inch to ten feet high. I put a great number of these small ones into boxes of earth, and sent them by a store-ship to Falkland's Islands, where I heard they were planted, but did not live, owing I believe to want of care.

“ The leaves of this tree are like those of laurel; its wood is white, light, and neither fit for burning or any other use. The wood is insipid; the taste is only in the bark and leaves.

“ At every place we touched at from Port Famine till we had reached the western end of the Straights, a course of about 120 leagues, we met with the tree that produced this bark. The weather is much more severe in this climate than in England, where, in my opinion, they would thrive very well. We arrived in March at a part of the Straights called Upright Bay, where we were detained  
a month.

a month. The trees here were very scrubby, but we found them in blossom, as I suppose they were now also at the easternmost part of the Streights; though we had much snow and hard frosts: The flowers were dropped from many of the trees; and the buds or berries were ripening: At that time they were not larger than a pea: I brought many of them home, and gave them to several of my acquaintance, who sowed them; but I never heard any of them came up."

Thus far Captain Wallis:

The bark of the Winterania; or Winter's cinnamon, brought over by the Dolphin, in respect to figure, exactly resembles that which was delineated by Clusius. The pieces are about three or four inches square, of different degrees of thickness, from a quarter to three quarters of an inch. It is of a dark brown cinnamon colour, an aromatic smell if rubbed, and of a pungent, hot, spicy taste, which is lasting on the palate, though imparted slowly. It has the name of Winter's cinnamon, from a faint resemblance in colour and flavour to that grate-



ful aromatic, though differing from it greatly in every other respect. This bark is only brought to us from the Streights of Magellan, and is the produce of the tree above described; much celebrated as an antiscorbutic by the first discoverers, but unknown in the practice of physic, no quantity, except as a curiosity, having been brought to Europe till the return of the ships sent out on the expeditions to the South Seas.

The bark which was substituted in the room of this, is the *Canella Alba* of the shops, the bark of a very different tree, and brought from a different part of the world, disagreeing with the former in almost every particular. It is of a light ash or grey colour; in thickness it seldom exceeds two-eighths of an inch. The pieces are of different lengths and irregular shapes, and for the most part are taken from trees of small size: its taste is aromatic, and has more of the clove than the cinnamon. It yields an essential oil by distillation, and is brought to us chiefly from Jamaica, though it is found I believe in some other of the West-India islands.



islands. There are a few plants of it in the stoves of some curious botanists in England, particularly in that belonging to John Blackburne, Esq; at Orford, Lancashire.

Sir Hans Sloane gives a figure of it in his History of Jamaica, from which it evidently appears to be a different genus from the *Winterania Aromatica*.

For want of the knowledge of these circumstances, and an opportunity of comparing the genuine Winter's bark with the *Canella Alba*, some of the most respectable writers on the *Materia Medica* have scarcely been able to avoid confusion in treating this subject, which it is hoped for the future will be avoided, and the distinction between them sufficiently established.

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*Experiments on the Cortex Winteranus or Magellanicus, by Dr. Morris.*

1. **F**IVE grains of Cortex Winteranus in coarse powder were infused in two ounces of cold water for about an hour;

on adding to a part of the filtered solution gradually ten drops of a saturated solution of green vitriol, the liquor became of a bluish black, and a black sediment was precipitated.

2. On repeating the experiment with hot water instead of cold, five drops of the solution of vitriol struck a purplish black with the infusion; the sediment was next morning of a dark olive colour, not unlike the sediment from an infusion of the Peruvian bark with *Sal Martis*.

3. On a comparative trial with the infusion of galls, though the phaenomena were the same with solution of vitriol, yet on examining the sediment of each next day, that of the infusion of galls was blacker, lighter, and more copious than that of the Winter's bark.

Two ounces of Winter's bark coarsely powdered were infused in a pound of clear river-water for thirty-six hours; the infusion was filtered, half a pound of water was added

added to the residuum, and infused with it for the same space of time; being then filtered, it was mixed with the former infusion, and evaporated to a dry extract, which weighed two drachms and twenty-four grains.

On treating two ounces of this bark with the same quantity of proof spirit, two drachms and twelve grains of dry extract were obtained.

On proceeding in the same manner with rectified spirit of wine, two drachms only of extract were produced.

A pound of the said bark in coarse powder was infused in a proper quantity of water for twenty-four hours, and a gallon was carefully drawn off by distillation. The distilled water was clear, of a pleasant taste, and had something of the flavour of cinnamon. There was no essential oil.

The decoction evaporated afforded six ounces of a soft extract, of a grateful aromatic taste.

From these experiments the Cortex Magellanicus appears to be an astringent of a particular kind, and therefore likely to be of use in several manufactures. That water is the proper dissolvent of this bark, though the saline, gummy, and resinous parts are so blended in it as in saffron and some other vegetables, that it parts with them readily in proof and rectified spirits of wine, though not in so great a quantity.

The infusion and decoction of this bark were of so grateful an aromatic bitter taste, that it seems likely to be a pleasant vehicle for some of the nauseous drugs. With this view, on substituting the powder of this bark for the cardamom seeds in making the infusion of senna, as directed in the London Dispensatory, the nauseous smell and taste of that excellent purgative was so effectually covered, as to be scarcely distinguished by the nicest palate. Tincture

ture of rhubarb also prepared with this bark instead of cardamoms seemed far less disagreeable.

It must not be concealed, that the *Canella Alba* from Jamaica, which is generally sold for the Winter's bark in the shops, was found to have the last-mentioned property, but I think not in so high a degree.

M. MORRIS.

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I shall conclude this account expressing a wish, that this very elegant and not less useful tree might speedily be made a denizen of Britain. Here it would most probably grow luxuriantly, as in a much warmer region than its own: it would bear our severest winters, and be a most agreeable addition to our evergreens; and, what is still of more importance, it would probably furnish us with a valuable medicine.

Captain Wallis, though unsuccessful in his endeavours, has set an excellent example; and if those gentlemen who in future  
may



may be employed by their country in those parts of the world take every opportunity of bringing either ripe seeds or plants to Falkland's Islands, or to England if possible, they would merit the thanks of the lovers of such ornaments, and render an essential service to the public. I am

Your Friend and Colleague,

J. FOTHERGILL.

XIX. *Of a Painful Affection of the Face\*.*

TO the MEDICAL SOCIETY in LONDON.

GENTLEMEN,

WHEN I related to you, at one of our late assemblies, the purport of the following narrative, several instances of a similar affection were then recollected; cases, which, though nearly akin in appearance to the tooth-ach, and that kind of disorder of the jaw which is sometimes called the rheumatism, sometimes the ague in the head, and which had not given way to those remedies and applications which in such complaints are most commonly successful in curing them; you then thought that a more particular account of this disease, and the method of removing it, might not be unacceptable to the public; for though it does not every day occur, yet to be able to distinguish and to cure, with some degree of certainty, a disease, that, during the time it

\* From Medical Observations and Inquiries, vol. v.

lasts,

lasts, is extremely excruciating, is an addition, however small, to the utility of our profession.

In the third volume of the Medical Observations, among the remarks on the efficacy of hemlock in relieving some anomalous pains, there is one case mentioned of a person cured by it of a painful disease affecting the face\*. It is a disease that has occurred to me several times; it seems to be of a singular nature, and, so far as I know, altogether undescribed.

This affection seems to be peculiar to persons advancing in years, and to women more than to men. I never met with it in any one much under forty, but after this period, no age is exempt from it.

The case does not occur very frequently. I can recollect but about fourteen instances in the course of my business.

This last year I was consulted for two women, one near eighty, the other about

\* See p. 325 & seqq. of this volume.

fifty years of age, both of them in other respects healthy.

From imperceptible beginnings, a pain attacks some part or other of the face, or the side of the head: sometimes about the orbit of the eye, sometimes the *ossa malarum*, sometimes the temporal bones, are the parts complained of. The pain comes suddenly, and is excruciating; it lasts but a short time, perhaps a quarter or half a minute, and then goes off; it returns at irregular intervals, sometimes in half an hour, sometimes there are two or three repetitions in a few minutes.

The kind of pain is described differently by different persons, as may be reasonably expected; but one sees enough to excite one's compassion, if present during the paroxysm.

It returns full as often in the day as in the night. Eating will bring it on some persons. Talking, or the least motion of the muscles of the face, affects others; the gentlest

gentlest touch of a hand or a handkerchief will sometimes bring on the pain, whilst a strong pressure on the part has no effect.

It differs from the tooth-ach essentially in many respects. It affects some who, from age, have few or no teeth remaining. It most commonly seizes some part above the sockets of the teeth, yet the teeth are sometimes affected with an exquisite sensibility; upon endeavouring to chew even the softest substance. The lower jaw is seldom attacked with this disease.

It differs likewise from that disorder which has obtained the name of an ague or rheumatism in the face, a disorder as painful as it is frequent. This, though it is often connected with some decay in the teeth and the nerves that are distributed to them, yet for the most part its exacerbations are regular in respect of time, like the fit of an ague; and at night, as in the rheumatism.

The tooth-ach, arising from a faulty tooth, does not often indeed afford much remission



from pain, till either the inflammation is abated by some means, or the nerve is destroyed, or rendered less sensible.

But when to the usual cause of a tooth-ach this rheumatic disposition is conjoined, though the pains are never intirely off, yet the night is the time of their greatest severity. Besides, the season of the tooth-ach and this species of rheumatism is generally from the end of adolescence to the meridian of life, or later.

The disease which is the subject of this essay is seldom observed till between forty and fifty, and through the later stages of life. Contrary to what happens in the preceding complaints, the affection I am treating of is most commonly severer in the day than in the night; sometimes, indeed, it is excited to an extreme degree of violence by the lightest touch of the bed-clothes, which can scarcely be avoided in turning, or any other motion in bed.

Some

Some painful affections of the head, and which sometimes extend to the face, likewise occur in practice, that arise from ancient venereal complaints imperfectly cured,

These likewise, as the rheumatism above mentioned, are always most severe in the night; they come on insensibly about bedtime, they increase till morning, then abate, so as to allow a few hours sleep, and are little felt in the day. The pain is described by the patient to be in the bone itself, and as if bored with a gimlet, or some other instrument. From its commencement in the evening till it abates in the morning, it never is entirely off, nor does it shift from one part to another of the head and face, as frequently happens in the rheumatism; besides, a little inquiry generally affords one sufficient grounds to justify the treating of it as a venereal complaint.

One of the first cases I met with was in a widow gentlewoman of about sixty-five years of age, who in general had enjoyed a good share of health, in easy circumstances, and  
without

without any apparent cause of anxiety, or other latent causes of disease.

In a moment she would be seized with the most acute excruciating pain, affecting the inner *cantbus* of the eye: it lasted but a few seconds, forced out the tears, and gradually went off. In a few minutes the same thing happened, and in like manner at unequal distances during the day, so as to occasion a life of great misery.

Its appearance was like that of a severe spasm: it had been considered as such, and treated, though ineffectually, with the most efficacious antispasmodics, but to little purpose; the pain still continued returning in the same manner. Opium in considerable doses was the only medicine that procured relief; but the costiveness it occasioned, the thirst and head-ach, almost made her of opinion, that the remedy was not less difficult to bear than the disease. At length, however, it seemed to decline by the use of extract of hemlock, together with her strength, general ill health ensued, and

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she continued a sufferer by it to her death.

As I was often present when these exacerbations happened, it was not difficult to recollect the disease when I met with it in other subjects, several of whom I have seen, and always with concern, as the methods I had pursued for the most part obtained but a temporary relief, till I made use of the extract of hemlock in the case above mentioned. Since that time I have had recourse to it whenever the disease occurred, and for the most part with success.

One of the last cases I met with was one of the most obstinate I had seen. A gentlewoman near fifty, of a full habit, rather strong make, accustomed to plenty, and using much and various exercise, had been seized with a violent pain affecting one side of her head and face, from the upper edge of the temporal muscle down its whole extent, and reaching to the teeth on that side. Before I had been in the room two minutes, I suspected, from the violent contortions of the face and the whole body, that her complaint



plaint was of the kind I have been describing. Not that these contortions are spasmodic or involuntary, but such as severe pain often occasions, when we endeavour to abate the sense of pain in one part by a general exertion of force upon some other, or over the whole body. Speaking, or chewing, or even slightly touching the skin or the side affected with the softest handkerchief, would immediately excite the pain, which, after continuing perhaps a quarter or half a minute, gradually went off, till it was again awakened by some fresh motion. She had been under the care of several persons of eminence in the profession, who had scarcely left any rational methods of relieving her unattempted. She had no fever, no other indisposition that pointed out means of relief.

The extract of hemlock was ordered; the quantity gradually increased to a full dose; and this was continued almost a month before any considerable amendment was observed. So much relief, however, was obtained as to encourage us to proceed. Some-



times indeed it returned for a few days with as much violence as ever. Still we persisted. It was almost a year that she persevered in this method, and to her entire satisfaction; as near another year has elapsed without perceiving any intimation of it. She took no other medicine during the use of the extract, except sometimes a gentle laxative when occasion required, nor was her diet altered; only some cautions given to use the lightest, least savoury kinds, and with some restrictions in regard to quantity.

In cases of singular difficulty and obstinacy, it is natural for us to be inquisitive into their causes and their nature; unsuccessful experiments sometimes lead the way to instruction; and we ought never to cease investigating the most abstruse recesses of nature, nor at the same time forget the narrow limits of our capacity, and the danger of presumption. What therefore I have to offer upon the nature of this disease, is rather submitted to your consideration as matter of farther inquiry, than as opinions sufficiently established.

On reviewing the cases I have seen of this disorder, I recollected the subjects were mostly women.

That they were for the most part, if not all, past the time of menstruation. That they were generally of a firm and somewhat robust habit, generally with black hair, and not subject to any particular diseases. Most of them had borne children; and nothing remarkable had occurred about the cessation of the menses; in general, rather of a costive habit; and in the middling situations of life.

In two of these cases, a small hard tumour in the breast had occasioned some suspicion of a scirrhus; but had never proceeded to give trouble.

These appearances, however, excited my attention, and induced me to suspect that the cause of these extreme pains in the face might possibly be of a cancerous nature; the method of cure and other circumstances seem to corroborate the suspicion.

The sex, the time of life, two cases where a tendency to this was obvious, as well as the kind of pain, which was sudden, frequent, and severe, and as suddenly remitting, were to me farther confirmations.

In tracing the history of persons afflicted with cancers not apparently proceeding from external causes, we shall find for the most part they have been afflicted with errattick pains in the limbs, often about the loins, sometimes in the thighs, and other muscular parts. These have commonly been considered by the patients as merely rheumatic; but if we inquire more particularly, we shall find they are very different. They are not always worse in the night than the day. They are not a dull, heavy, aching pain, and continual; but sharp, lancinating, and remittent. They are not much affected by the weather, nor by any obvious causes; and they frequently disappear for some time; at least, there is a considerable abatement in their violence.

These

These pains do not always cease when the cancer becomes obvious : they are sometimes severe when the disease is making great progress externally : and experienced surgeons well know how little benefit the unhappy patients have to expect from removing the breast or other diseased part, if the patients have been long subjected to such complaints.

It seems not improbable, but that a sharp, corrosive, cancerous acrimony may long be pervading, like electrical matter, certain series of vessels, and, when collected in a certain quantity, may create these pains ; yet without seizing upon any part with such violence as to destroy its functions. But if a part that favours its operations is once injured, those we call glandular especially, as the breasts, and the subcutaneous glands in the face, and other parts ; if these become incapable of resisting or subduing the cancerous matter that may be thrown upon them, the mischief then becomes evident, and advances in proportion to the combination of those causes which favour its progress.

F f 4



gress. An original disposition to form such acrimony, bad health, anxiety, external injury, and extreme sensibility of pain and danger; seem to constitute a part of these causes.

There are few physicians, I believe, who may not, on reviewing many cases which have occurred to them of anomalous pains in different parts of the body, so as sometimes to counterfeit gouty, bilious, and other internal affections of the stomach and bowels; perceive some analogy between them and the complaints here pointed out.

Perhaps a cancerous acrimony may have been the basis of some of these stubborn evils, and probably a good deal of mischief might have been prevented by treating them early as if they were known to be of a cancerous complexion, by opening a drain, by repeated small bleedings, by gentle cooling laxatives, the hemlock, a light diet, and the other usual auxiliaries in such complaints. It is with a view to promote some  
attention



attention to this object, that I have troubled you with these reflections.

*P. S.* Since the preceding account was presented to the Society, I have met with two more cases of this painful affection; and found upon inquiry, that in both these there had been hard, permanent, and painful tumours in the breast.

That these tumours became less painful when the face was attacked; and that both the one and the other had yielded to the efficacy of this medicine, the pain and the tumour both abating.

XX. *Of the Management proper at the  
Cessation of the Menfes\*.*

To the MEDICAL SOCIETY in LONDON.

GENTLEMEN,

THERE is a period in the life of Females to which, for the most part, they are taught to look with some degree of anxiety; as a period on which depends their enjoying a good or bad state of health during the residue of their lives.

The various and absurd opinions relative to the ceasing of the menstrual discharge, and its consequences, propagated through successive ages, have tended to embitter the hours of many a sensible woman. Nor have these mistaken notions been confined to them only; they have occupied the minds of such who ought to have been better informed: some practitioners, in other respects able and judicious, if they have not favoured

\* From Medical Observations and Inquiries, vol. v.

these erroneous and terrifying notions, seem not to have endeavoured to correct, with the diligence and humanity which an object like this requires.

The design of this Essay is to contribute my mite towards so necessary a purpose ; to assist in removing these groundless apprehensions, and to substitute a reasonable confidence, that, with very little aid, Nature is sufficient to provide for her own security on this occasion.

You must forget for a moment that I am submitting these remarks to the judgment of a Society, every member of which, perhaps, is as capable of this work, and some much better than myself. I am writing to many sensible young men in the profession of physic, who, though they may have applied themselves to the general study and practice of our profession with diligence and success, may not yet, perhaps, know where to look for such information on this subject as may be sufficient to satisfy themselves and  
their

and the more strongly they are prepossessed with a belief, that by this channel has been regularly discharged whatever had a tendency to produce diseases, the more they are terrified with apprehensions of some of the worst complaints: and, indeed, it is not seldom that, by such anxiety, they bring on disorders that are not easily removed, attributing them to the cause we are speaking of, whilst they principally originate from anxiety.

For the most part, the menstrual discharge, as has been mentioned, proceeds from a redundancy of good and healthy blood: this redundancy is formed for the most necessary purposes; continues whilst this necessity subsists; and ceases when, according to the constitution of the female frame, it is no longer required.

The powers communicated to the human system, generally expressed by the term Nature, are such as spontaneously bring about this cessation. The provision for the menses ceases, an extra quantity of blood

is not generated, and the vessels provided for its regular discharge by degrees collapse, and in general all this proceeds without any the least interruption to the health of the subject in which this alteration happens. Here it might not be improper to mention at what time this alteration first begins, and the general period of its cessation. These circumstances, however, may be found elsewhere so amply treated of, as to render it as unnecessary as it is foreign to my present design.

There are great numbers of women in whom the menstrual discharge ceases, without their perceiving any alteration in their usual health. There are some who, from being invalids during a part of the season which is appropriated to menstruation, find themselves by degrees recovering health and vigour, to which they have been strangers during that period when this discharge leaves them entirely. Very tender, delicate, relaxed habits subject to copious discharges, are often much benefited by the cessation. All, however, are not so fortunate. Some alter-



alterations frequently supervene, that render assistance necessary.

Amongst these alterations, the most frequent are such as arise from a redundancy of blood and immoderate discharges from various causes.

About the time when this change is to happen, or not long after, many persons find the disorders to which they have heretofore been subject, more frequent and more troublesome. Some are afflicted with the well-known symptoms of plethora, heat, flushings, restless nights, troublesome dreams, and unequal spirits; others are attacked with inflammations of the bowels, or other internal parts, spasmodic affections of various parts, stiffness in the limbs, swelled ancles, with pain and inflammation, the piles, and other effects of plenitude. In these cases it seems as if the organs, which were instituted with a design of providing the natural surplus, continued to produce this effect, whilst the size of the vessels destined to discharge it, was diminished, or they were collapsed entirely.

This

This case is opposite to the former, in that the organs of excretion continued to execute their functions, and actually discharged a portion of blood from the common mass, whilst those organs which are formed to provide a surplus in enfeebled habits, were only capable of maintaining the necessary stock. And on the disparity in the operations of these two different organs, in fact, depend most of the complaints incident to the sex at this particular period. In some, the provision ceases before any change is produced in the excretory vessels. In others, the excretory vessels become unfit for their office, whilst the organs for accumulating blood continue to be efficacious.

From this view of the subject, it will be less difficult for the practitioner to form a judgment of what is fit to be done on various emergencies: it will be easy to discover how far evacuations are likely to avail; and when other means become necessary. Those of full plethoric habits, accustomed to copious evacuations, will find great re-

lief by bleeding frequently in moderate quantities, keeping the bowels lax, and moderating their diet. They are, for the most part, attacked about the time of menstruation with sudden flushing heats, succeeded by instantaneous sweats, continuing for a few seconds, then going off for a short time, and again recurring many times in the day; they are worst after eating, in a room much heated, in large assemblies, in bed, attended with restlessness and frightful dreams. These gradually abate for a few weeks, and as the period approaches again, come on, and so successively, for a year or two, or more, terminating sometimes in large immoderate fluxes; sometimes in apoplexies, palsies, and other diseases arising from plenitude.

If such are advised to lose four, five or six ounces of blood, at the distance of two, three, or four months, just as the vehemence of the symptoms requires, every thing of this may be happily prevented; and as the occasion for bleeding daily decreases, its repetition may be put off to longer intervals.

It

It happens frequently, that some circumstances attend the patients, which induce practitioners to omit this operation, or at least induce the patients to object to it in such a manner as to get it postponed. They allege they are subject to nervous complaints; they never could bear bleeding; it always hurt them, and the like. But with a full, hard pulse, great heat, and the other symptoms described, one need not fear the increase of any such complaints; on the contrary, as they proceed so evidently from plenitude, they seldom fail to give way to moderate and repeated evacuations.

It is not unusual in such cases to be informed that the patient has swelled ancles; and that bleeding would inevitably, at that time of life, bring on a dropfy. But if this fulness appears to be hard, inflamed, and painful, as is most commonly the case in some degree, the lancet and some gentle laxative will scarcely fail of removing, instead of aggravating, the complaint; and recourse may be had to the same remedies, if the like complaints recur.



There is another circumstance often happens at this period, sometimes owing to the neglect of evacuations at a proper time, sometimes to the use of improper medicines, sometimes to the peculiar constitution of the patient; I mean an immoderate flux of the menses, which often requires the utmost care in its restraint and future regulation.

For the most part this happens to women of sanguine habits, living well, accustomed to copious evacuations, or to the general effects of plenitude.

If, in such constitutions, the evacuations are not very considerable, their health is often interrupted, either by frequent inflammations of the tonsils, and other glandular parts, or they have the rheumatism, erysipelas, or the piles; if in these habits the menses cease very suddenly, they are either exposed to the complaints above mentioned, more frequently, and to a more violent degree, or to repeated and excessive floodings. A little attention to these circumstances will often point out the means of effectual prevention.



vention. But if it does happen, it seems much more prudent to restrain the flux by gentle laxatives, cooling medicines, rest, anodynes, a most sparing diet, and this not too liquid, than by very copious bleeding, and astringents of any kind.

There is another kind of habit to which such immoderate discharges are too familiar;—to persons of very irritable constitutions, and at the same time not remarkably plethoric. If in such constitutions the menses go off very suddenly, it happens sometimes that the impetus of the blood on the uterine system produces a violent hemorrhage that enfeebles extremely at the time, and, as it increases the irritability of that part of the system in particular, subjects the patient to very frequent and expensive relapses.

In these cases, bleeding would undoubtedly increase the disease. Medicines that allay irritation, anodynes, quiet, a moderate cordial, as wine, and a light nutritive diet, at once take off the cause, and enable the pa-

tient to support the expence with the less difficulty.

It has happened that a regular intermittent has been attended with a regular and immoderate flux. In seasons when autumnal intermittents are frequent, such circumstances will now and then happen to patients who have suffered considerable loss about the time of cessation. In such cases, the bark given with the same freedom as in curing the ague, safely cures both the flux and the intermittent.

Sometimes these immoderate fluxes proceed from some irritating cause resident in the uterus or the parts contiguous to it. And amongst these none is more common than that deposition of acrimony which precedes a cancer of the parts.

In such cases the most apposite remedies are often ineffectual. The flux is attended with pain and heat darting across the pubes, from hip to hip, and down to the middle of the thigh. Large clots of blood are frequently

quently discharged, that give exquisite pain in passing, and at the same time the flux is increased by the stimulus.

It is not uncommon in such cases to see the bark administered very freely, and I am afraid to no good purpose. Indeed it requires the hand of a master to give this medicine properly in uterine discharges. In cases of plenitude it is injurious; it seems to be so likewise in this case just described. In such as proceed from mere debility and relaxation, it may stand a much better chance of being useful; but it is to be feared, that incipient, scirrhus, and other obstructions have been much aggravated by the injudicious exhibition to restrain a discharge which depended on causes not in the power of this great medicine to subdue.

To enter into all the particulars that attend this event will be unnecessary. Permit me, however, to make some remarks upon the kind of purgatives that are much in use upon these occasions, and to some of which there are very just objections.

An opinion generally prevails among the sex, that purgatives are particularly necessary at this juncture; and is assented to by the generality of practitioners, who, had they made a proper choice, would have acted more prudently. Various preparations of aloes, the *tinctura sacra*, *pil. Rufi*, *elixir proprietatis*, and other compositions of this kind are recommended, from one to another, as proper purgatives to be used on the cessation of the menses.

But if we reflect a little upon the known effects of this drug, in all its preparations, we shall find it almost uniformly producing the piles, if taken long together, and in considerable doses.

From its effect in stimulating the hemorrhoidal veins and contiguous parts, it has long been adopted as the basis of most medicines exhibited with a view to promote the menstrual discharge in young females, where it does not appear at the usual time, or in a proper quantity, and often with success. It can scarcely then be rational to give  
that



that medicine, which is found to be efficacious from its power of irritating the hemorrhoidal and contiguous vessels, and determining the blood with a due degree of force on the uterus, to produce the menses, at a time when we are endeavouring to abate this impetus, rather than increase it: in short, it seems highly absurd to make use of those medicines when the menses are about to cease, and ought so to do, which are given to provoke and promote this evacuation. Instead, therefore, of countenancing a practice which is not only unreasonable in theory, but injurious in practice, every convenient opportunity ought to be embraced, to expose and correct a popular error, than which perhaps there are few in the circle of medicine that are more mischievous.

Repeated instances have occurred to me, of grievous inconveniences arising from these heating medicines; the piles, strangury, immoderate discharges of the menses, racking pains in the loins representing labour-pains, and other similar complaints,

There



There are many persons, it is true, who cannot easily bear the more cooling purgatives; very tender, delicate habits are most affected by them: but it is not difficult to contrive cathartics, neither heating like the aloes, and other gummy, resinous medicines, nor yet chilling as the salts. Rhubarb, senna, magnesia, sulphur medicines, small doses of jalap, and various combinations of them, will supply sufficient variety to the prescriber and the patient.

It will be of more efficacy in curing of complaints arising from the causes we are treating of, to contrive some easy method of preventing costiveness, than to be dealing often and freely with purgatives of any kind. It happens in some constitutions, that the menstrual discharge is protracted much beyond the usual period of its cessation in others. Whilst it proceeds regularly, comes at the proper time, and in due quantity, the patient in the mean time perceiving no inconveniency, no perceptions of declining health, suffers it to keep its course, without attempting to restrain it. Should the health

in

\* The best Medicine in such cases  
is Nitro given in full dose  
/ Anonymous

in general suffer by it, the same means that succeed in lessening immoderate discharges, may properly be applied in this case.

When the menses are about to go off, for the most part they appear irregularly, both in time and quantity; once in a fortnight, three, five, or six weeks, sometimes very sparingly, at other times in immoderate quantities.

Great losses of this kind are often prevented by taking away four or five ounces of blood, a few days after the first menstrual suppression. This prevents the accumulated blood from rushing with force upon the uterine vessels at the ensuing period, and producing pain or a too copious hemorrhage. By degrees the occasion for such artificial evacuation diminishes, and the patient's health becomes firmly established.

An opinion in favour of issues at this period of life has occupied the minds of many patients; some with the hopes of preventing all future evils capable of proceeding from  
this

this cause; others with the terror of carrying about with them for life a drain which they think of with extreme disgust. Perhaps the use of these outlets deserves some consideration. When a patient has in early life been subject to cutaneous eruptions, sore eyes, glandular swellings, or other obvious marks of morbid humour subsisting in the constitution, and all which may have disappeared about the time the menses became regular, if no invincible opposition is made to it, a drain is now certainly advisable, and may prevent many inconveniences.

Should any cutaneous foulnesses, any ulcerations, any fugitive pains of the cancerous or rheumatic kind, hardnesses in the breast, or other parts, be evident, all such complaints would probably be in part relieved by issues. But when none of these circumstances appear, or have appeared, it seems scarce reasonable either to propose or permit a certain inconveniency, to call it by no harsher a term, in order to cure a disease that has no existence.

It is necessary to enjoin, in many cases, a most strict attention to diet and exercise, to the full and plethorick especially. Meat-suppers should be avoided as much as possible, and likewise much animal food, by those who are liable to immoderate evacuations. If they could subsist two or three days in a week on pudding, vegetables, and things prepared from them, such a method would contribute greatly to prevent not only these copious discharges, but various accidents that arise from plenitude, such as palsies, apoplexies, fevers, and inflammations. Their liquors should be regulated likewise by a similar scale.

They should avoid all heating exercise, frequenting large assemblies or hot close rooms, near the approach of the usual period. In the intervals, exercise will be extremely necessary.

It will not be altogether foreign to this subject, to mention two cases which now and then occur in practice, and sometimes cost both the patient and physician some perplexity.

A woman



A woman enjoying very good health, sometimes is seized with a total suppression of the menses, much sooner than they ought to disappear, perhaps soon after thirty years of age. A fever, surprise, anxiety, sudden and violent cold, especially if it happens at the time, will put a total stop to the discharge.

For many months, sometimes a year or two, she feels very little effect upon her health by this suppression, perhaps grows plump, and seems disposed to corpulency; by degrees, however, she perceives herself not to be so well as usual; she is liable to colds, inflammations of the tonsils, erysipelatous eruptions, rheumatisms, but most commonly severe affections of the bowels, either inflammatory, bilious, or spasmodic; one or other of these return frequently, and often violently, in six weeks, two months, or longer, but at no very regular periods; and in this manner continue to harass the constitution (if the person survives the severe attacks of the colic or other disorders incident to this state) till about the time  
when



when the menses should cease spontaneously.

An attention to the cause of these disorders supplies us with a natural and efficacious remedy. Substitute at convenient distances artificial evacuations, instead of the natural one that is suppressed, and, if possible, previous to the disorders to which the suppression has given rise ; bleeding in small quantities two or three times a year ; moderate purgatives frequently exhibited, and, particularly, attention to their diet, which ought to be moderate and mild. At the first sensations of sickness, or great heat and restlessness, or pains beginning to affect the stomach or bowels, or any of those symptoms which have usually been the forerunners of the disorders above mentioned, then is the season for preventing those difficulties which arise from this preternatural suppression.

Another case likewise sometimes occurs in practice, which it may not perhaps be improper to mention.

Women

Women of an apparently healthy, sanguine constitution, disposed to corpulency, using little exercise, accustomed to live plentifully, perceive a sudden suppression of the menses, at a time of life when there is reason to expect many years continuance; from thirty-five years of age and upwards; in a little time they grow full, the belly seems to swell, with tense pains, pain in the breast, some enlargement of them likewise, some little sickness in the mornings, dislike to particular foods, and other symptoms similar to those of pregnancy; and married women are so fully satisfied of it, as to believe themselves in this situation, and that they actually perceive the motions of the child.

This circumstance happens most commonly to those women who have been married rather late in life, *viz.* between thirty and forty. Their inexperience leads them to take up with the opinions of those about them, and they are sometimes not undeceived till the time of gestation is much exceeded.

Women

Women also who have been long married and had children, several years after the menses stop, suddenly they grow bigger, suspect pregnancy, and treat themselves accordingly; abstaining from exercise, eat what their appetites, often craving and depraved, require, till they have exceeded their reckoning, so long as to be sure they have been mistaken.

The like complaint happens now and then likewise to single women about the age of forty, or near the time when this evacuation ought to stop. The belly grows large, they become unwieldy, their legs swell, and the apprehension of a dropsy brings on a variety of complaints. The hemorrhoids are commonly the attendants of all these subjects. Sometimes one may trace out some probable causes from which this preternatural state may probably be derived, but not always clearly. The proper treatment is, however, not difficult to discover. The general turgescence, though it proceeds primarily from a retention of the menses, does not appear to be confined to

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the uterine vessels alone; all the venous system of the lower belly is affected; the lymphatics also, in consequence of the general oppression. The legs often swell, the piles are almost always troublesome; the patients are generally costive, the urine in small quantities and often discharged, and all the thinner secretions diminished. Yet the countenance and appearance of the whole habit denote a general plenitude, but very different from the bloated body of an hydropic. Repeated bleeding in small quantities always gives relief. Sulphur and magnesia, or other easy laxatives given constantly, prevent the piles, and keep the belly gently open. Regular exercise on horse-back, or in a carriage, is quite necessary to effect a cure, which is for the most part slow and tedious, but in general certain. Purgatives approaching to the drastic kind are often injurious, and so are copious evacuations by bleeding, though small ones are essentially necessary. Their diet should be light, but not too liquid. By means like these the general fullness gradually subsides; they seldom have any return of the  
menfes,



menfes, except now and then fome flight intimations.

Permit me to mention another cafe, which, though it does not abfolutely relate to the prefent fubject, is not quite foreign to it. Nothing, perhaps, is more excruciating to the patients, nor in common more difficult to cure, than painful menftruation; it impairs their health at prefent, and feems to render them lefs prolific in future: To the fufferers it is a moft ferialous evil. By the following fhort procefs I have been happy enough to relieve feveral: Let the patient have by her a few pills, confifting of *extr. theb. gr. j.* each, made foft with a little of any kind of conferve. She is to take one of thefe pills the moment fhe finds the pain attending this difcharge coming on. A pill may be taken every hour till the pain goes off; they feldom require more than two of thefe pills; one is often fufficient, if given early; and it ought to be a conftant rule obferved in adminiftering anodynes, to give them, when they are plainly indicated, early. It requires much lefs of an opiate to obviate pain than to quiet it when acute.



Let the patient keep either in or upon the bed, at least in a recumbent posture; let her drink moderately of any diluting liquor, any of the herb teas, weak whey, thin broth, or what else her constitution may particularly require.

When the time is past, a course of chalybeate bitters, in small doses, may be continued till within a few days of the return; and the belly should be kept open by some proper laxative; two or three grains of *cathart. extract.* with half the quantity of *calx antimonii illota*, taken every night, will often succeed perfectly well. The anodyne must still be in readiness to take when the pain comes on, and to be taken to such a quantity as to mitigate the pain, let the dose be what it may.

This excruciating pain seems to be spasmodic, and to proceed from the extreme irritability of the uterine system: The blood naturally determined hither, in order to its being discharged, by distending the very irritable vessels, occasions the spasm; this  
pro-

produces a constriction of the vessels ; they become impervious, and the nifus to the discharge continuing, the pain becomes exquisite and general, till the patient, worn out with the struggle, is debilitated and sunk ; the fluids are then dismissed, some ease succeeds, but the patient is often so reduced as not to recover her usual strength before she has another conflict to undergo.

The *fluor albus* is frequently the consequence of this struggle, and it would seem as if the *uterus* itself was so far a sufferer as to be rendered by degrees less fit for fecundation. I think it has been observed by other physicians, as well as myself, that few of those who have suffered much in the manner here described, have borne children.

XXI. *The Case of a Hydrophobia* \*.

I SHALL introduce what I have to say upon this Case by an account of what happened before I saw the patient, as it was drawn up by W. French, his apothecary.

“ MR. CHARLES BELLAMY, of Holborn, aged forty years, on the 14th of February 1774, was bit by a cat, which was killed the same morning.

\* This paper, which was originally published in the *Med. Obs. & Inq.* vol. v. was afterwards reprinted in the form of a pamphlet, with the following Preface, and Additional Observations.

“ I HAVE been solicited to reprint the following Case, that it might pass into many hands where the work in which it was first inserted may never come. I yielded to this solicitation the more easily, when I found that neither the Society to which it was presented, nor the Bookseller whose property it is, had any objection to its being published in this manner.

“ The reader must not expect to find in it a cure for the Canine Madness. He will find, perhaps, nothing more of certainty in this respect, than that ALL the remedies hitherto proposed, either as preventatives, or cures, are found by experience to be altogether ineffectual.

“ To rely on any popular means of preventing the fatal effects of this poison, whether known and generally divulged, or preserved as secrets, which, as the Tonquin medicine, are found to be incompetent and ineffectual, is a dangerous deception.

“ Were

“ The day after, viz. February 15th, he  
 “ took the celebrated Ormskirk medicine,  
 “ sold by Hill and Berry, in Hill-Street,  
 “ Berkeley-Square, and conformed to the  
 “ directions given by the vender in every  
 “ respect.

“ A servant-maid, who was bit in the leg  
 “ by the same cat, just before her master  
 “ was bitten, took the same remedy.

“ Were it only to give one incontrovertible fact in evi-  
 “ dence against such pretensions, and of course to stimulate  
 “ the faculty to make a farther search after more effectual  
 “ relief in this distemper, it would be doing some service to  
 “ Society.

“ Dr. Vaughan of Leicester has lately published some  
 “ cases of the Hydrophobia, which in divers respects con-  
 “ firm the intimations given in the cure referred to. And  
 “ the very rational, though unsuccessful, efforts he made to  
 “ assist his patients under this calamity, are proofs of his  
 “ attention, and of the hitherto untameable nature of this  
 “ singular poison.

“ Let not, however, these difficulties discourage us from  
 “ observing every case that occurs with attention; and faith-  
 “ fully noting every incident that arises in the progress of  
 “ the disease, perhaps, the united labours of the faculty,  
 “ Providence permitting, may, at length, discover some  
 “ effectual remedy.

“ To this Case are subjoined some Remarks on the Ca-  
 “ nine Madness and Hydrophobia, with a view to assist  
 “ those who are called in upon these occasions, to perform  
 “ their duty with satisfaction to themselves, and advantage  
 “ to their patients.”



“ About the middle of April he com-  
 “ plained of a pain in his right knee, which  
 “ he supposed was affected with the rheuma-  
 “ tism; he had felt the like pain at times  
 “ during the last two years, and had pro-  
 “ cured himself ease by pumping cold wa-  
 “ ter on the part. On the 7th of June, this  
 “ complaint increasng, he desired me to  
 “ attempt something for his relief. I accord-  
 “ ingly sent him a box of pills, two of  
 “ which were to be taken every night, con-  
 “ taining about one grain of calomel, of  
 “ camph. ipecac. and *pill. sapon.* two grains  
 “ each, and two tea-spoonfuls of Huxham’s  
 “ tincture of the bark in buck-bean tea  
 “ twice a-day.

“ After having taken these medicines  
 “ about six days, he discovered an unusual  
 “ titillation in the *urethra*, a contraction of  
 “ the *scrotum* and *penis* to a degree of pain,  
 “ and an emission of *semen* after making  
 “ water, to which he had frequent calls.

“ Alarmed at these symptoms, which he  
 “ attributed to his medicines, he was desired



“ to discontinue them, and to live as temperately in every respect as possible.

“ On Thursday the 16th of June, he sent for me in the morning, complained much of having had a restless night, and told me, though he had eat some bread and butter as usual for his breakfast, yet he found he could not swallow his tea without difficulty ; he attempted it before me, and threw a little into his mouth, but with the utmost agitation.

“ Recollecting the accident of the bite, and apprehending the most serious consequences, but without discovering my apprehensions to the patient, I proposed a physician might be sent for. Dr. Fothergill was mentioned by the patient. I met the Doctor in a few minutes after, and informed him of the preceding circumstances, and attended him to the place.

W. FRENCH.”

Theobald's-Road,  
June 20, 1774.

I saw

I saw the patient above mentioned the 16th in the morning: he was sitting in his dining-room, without any other appearance of indisposition than a little paleness; his countenance cheerful; nothing that discovered uneasiness or anxiety. He recited very distinctly the complaints which he called rheumatic, and which had induced him to apply for help; mentioned his opinion, that his disorder had been increased by the pills, &c. but upon being informed, they could have no such effects, he readily gave up the point. “I have had, says he, a very restless  
 “night; my head has been much out of or-  
 “der; I have sweated a great deal, was very  
 “faint with it, and have had little or no  
 “sleep: I was extremely thirsty in the night,  
 “and intended to have regaled myself this  
 “morning with a large draught of balm-tea,  
 “which stands there ready made; but you  
 “shall see the difficulty I am under, and which  
 “induces me to ask your assistance.” He then took up a tea-cupful of common green tea with milk in it, as he drank it commonly for breakfast, and brought it within a few inches of his lips with great composure: he  
 then

then threw the liquor into his mouth, and swallowed it with uncommon haste and perturbation. “You see, says he, I can force it down; shall I do this very frequently, or will you allow me to omit it a while?”

It may be proper in this place to mention, that our patient was a person of a good understanding, active, diligent, and sensible, much esteemed for his probity; and during his illness, he gave proofs of a capacity and resolution superior to most men in the middle stations of life.

I desired him to forbear the attempt, while it continued to affect him with extreme uneasiness, but to endeavour to get down bread moistened with any liquor he chose as often as possible. The thought pleased him, and he got down bits of bread moistened with wine without much difficulty, whilst I staid, and continued so to do frequently during the day; and this was the only kind of nourishment he got down.

He

He had naturally a lively, penetrating eye; but his aspect varied frequently and remarkably during our conversation. His pulse was generally about ninety, and rather hard, but changed almost every minute, both in frequency and hardness. His flesh felt moderate, his tongue dry; he made very little urine, and complained much of the contraction of the *scrotum*; the emissions had almost ceased, and his bowels had been sufficiently emptied the preceding morning.

He took not the least notice of his having been bit to me, nor did he appear to have recollected it during the course of his illness.

We forbore, on this account, to inquire after the state of the wounded part, or to say any thing that might lead him to suspect his present complaints arose from that fatal accident.

To gain a little time for reflection on a case so sudden and so dangerous, and that nothing which seemed reasonable to be done might



might in the mean time be omitted, I order'd six ounces of blood to be taken from the arm; that a scruple of native cinnabar, and half a scruple of musk made into a bolus, might be given every four hours; and that as much nourishment, fruit, or any thing he chose, might be got down, as possible.

The family were apprised of the dangerous situation he was in, and a consultation requested as early in the evening as might be convenient. Dr. Watson was pitched upon; we met at five in the evening, the 16th, and received the following account:

He had taken two of the boluses, had got down several bits of bread moistened with wine, some strawberries, a few bits of pudding, but had not attempted to drink any liquor. We requested he would then, for our satisfaction, endeavour to swallow a little liquor: he readily assented; it was brought to him; he threw it hastily into his mouth, and swallowed it with difficulty and extreme perturbation; the moment the liquor touched



touched the *gula*, all the muscles concerned in deglutition appearing to be convulsed.

He repeated to Dr. Watson very intelligibly and fully the account which he had given me in the morning. His countenance was pale, and he seemed much agitated and distressed; complained of extreme thirst, and of the impossibility of swallowing any liquid. His tongue was white, but did not appear dry. He was perpetually endeavouring with great efforts to bring up and discharge the viscid, tenacious phlegm which lined the *fauces*.

The heat of his flesh was moderate; but his pulse was quick, hard, and irregular; strong palpitations of the heart, which he made us feel by pressing our hands to the part.

He was perfectly sensible; and, when his endeavours to discharge the viscid phlegm would allow him to speak, gave us pertinent answers. He had made but little urine since the morning; the dragging, as he called it,  
of

of the *scrotum* still continued, and the uneasy sensation and emission.

The blood which was taken away in the morning had some slight appearance of inflammation, the *crassamentum* firm, with slight traces of size, but the *serum* remarkably yellow. No evacuation by stool to-day. Upon the whole, it was evident, that the disorder had increased since morning.

Upon maturely considering this very hazardous state of things, we agreed upon the following process :

To procure a stool or two by means of a clyster :

That he should then be carried to the warm bath, and remain in it so long, and to such a degree of heat, as was most agreeable to himself :

That at his return a clyster should be given of a pint of milk and water, and this to be repeated as often as it could be conveniently administered :

I

That

That in the last of these clysters a drachm of Dover's powder should be exhibited :

That two drachms of strong mercurial unctiōn should be rubbed by himself on his legs and thighs as soon as he returned from the bath, and that he should endeavour to get down all the sustenance he could.

We saw him early next morning, the 17th, when we received the following account :

The laxative clyster had produced a proper effect.

The warm bath relieved him greatly whilst he was in it, so that for a time, as he expressed it, his sufferings were suspended. They returned, and with more violence, during the night. The clysters had been repeated several times, and the unctiōn applied.

We found he had passed a most restless night, totally without sleep, and in much agitation,

agitation, not being able to lie still a moment.

His countenance bespoke much distress, though accompanied with endeavours to conceal it; sometimes he was calm, then agitated; talked much, but sensibly. He had now a copious flow of saliva less viscid; his tongue white and moist, but foul. His pulse was very quick, small, hard, and irregular; his hands rather cold than hot. He had made water in the night with less difficulty, and without its usual consequences; the dragging pain, or spasmodic affection of the *cremaster* was gone off. In general, his strength and faculties seemed less impaired than might have been expected, where so little sustenance had been taken in, constant restlessness, and no sleep.

On considering these circumstances, and observing there was a more copious flow of saliva, the tongue more moist, the thirst less, the spasm of the *cremaster* gone, yet that his difficulty in swallowing was not less, still no sleep, but his head still clear:

I i

That

That his pulse continued hard and quick ; that there were some appearances of an inflammatory density yesterday ; that he had found relief from the bath, at least, a temporary suspension : We agreed,

That he should be blooded standing, according as his strength would bear :

That he should be conveyed to the warm bath, and remain in it as long as he found it agreeable to himself :

A clyster of milk and water to be thrown up at his return from the bath, with a drachm of Dover's powder ; and

Half an ounce of mercurial unction to be rubbed on his legs and thighs as soon after as might be done conveniently.

One scruple of *thebaic. extr.* was ordered to be made into twenty pills, three of these to be given when he came out of the bath, and two every hour, till he seemed disposed to sleep.

At



At five in the evening we visited him again, when he received us with the utmost transport and joy; and described in very strong terms the pleasure and the benefit he received from the warm bath, and the hopes he now conceived of a speedy recovery.

A vast quantity of viscid phlegm was continually flowing into his mouth, which he was as constantly employed in discharging; for it seemed to have the same effect upon the organs of deglutition, as if he attempted to swallow any other liquor, and gave him extreme uneasiness. To get rid of this defluention, the moment he felt it in the *fauces*, he exerted a sudden and vehement expiration, as if it was with a design to blow away the moisture so offensive to him, with the utmost force and expedition. This occasioned a sound, which did not seem very remote from the hollow barking of a dog.

When he was not employed in these efforts, he was talking constantly but coherently. His eyes had a particular keenness, and all his motions were quick, and vehe-

ment. His pulse was also quick, hard, sometimes trembling and irregular. His hands were rather cold and clammy, but the general heat of his body not intemperate.

He told us he had taken a great deal of nourishment during the day. On inquiry, we found it amounted to no more than on the preceding; a few bits of bread moistened with wine, a little pudding, two or three pieces of china orange, which pleased him much. He had taken none of the pills.

Previous to his going into the bath, he desired to be shaved; it was readily assented to, but proved a more troublesome operation than he was aware of. The moment the lather touched his face, he fell back with surprise; but the part being once wetted, he bore the repetition easily; every fresh part that was lathered gave him considerable emotion; the application of the razor had in a degree a similar effect: in short, every new movement about him gave him some fresh alarm, some degree of agitation and anxiety. He took notice of this himself;

“ but,

“ but, says he, I am naturally hasty and  
 “ choleric; and when I am got better of  
 “ these complaints, I hope you will assist  
 “ me in correcting it.”

Whilst he was in the bath, the person who attended him, without any particular intention, took up some of the warm water in his hand, and poured it on the patient's head and face: this confused him much; he described to us the distress it gave him at the time very emphatically; and added, with much apparent satisfaction, that he had so far conquered his aversion to it, that he had poured water on himself with his own hand in the same manner.

It was in speaking of this affair he mentioned the term *Hydrophobia*; observing, that his complaints resembled it; yet without giving us any reason to apprehend he had the least idea of his actually labouring under this fatal distemper.

He had not slept a moment from the time he was seized with the dread of liquids.

He repeatedly expressed the satisfaction he received from the bath, and wished to go into it again. We consented, and desired that he might be carried thither again, and to stay in it as long as he chose it.

Every new operation now became an extreme difficulty to him; dressing, undressing at the bath, going into the water, which he now did with much intreaty, putting one foot in, and hastily withdrawing it. He was at length prevailed on to go into it. A recollection of the ease he had enjoyed in it before, aided by a manly resolution that never forsook him, subdued his fears, and he remained in it near half an hour. He was brought home about nine o'clock. He refused to take the pills, and every other medicine. He grew fretful and restless, soon became delirious, but offered no violence.

After remaining in this condition about two hours, the powers of nature sunk, he reclined his head gently on the pillow, and expired at half past twelve.

Endeavours



Endeavours were used to observe the condition of the part that was bit, when he was dressing after bathing, as far as could be done without alarming him; but ineffectually. After death it was examined with attention, but without perceiving the least morbid appearance.

For this account of his last hours, and his behaviour at the bath, I am obliged to my friend, William French, his apothecary, who attended him with the utmost constancy and humanity.

During our attendance, we learned that this accident happened in the following manner;

The servant-maid having occasion to wash, rose earlier than was usual: upon her entering the wash-house, a cat attacked her, and fixed upon her leg. Her screams brought her master to her assistance; he aimed a blow at the cat, but missed it; the cat then seized his leg, but he soon disengaged him-



self from her; a chairman passing by was called in, who soon killed her.

Both the master and maid took the Ormskirk medicine as speedily as possible, and observed the directions given with it. The master's leg soon healed, and he seems to have thought no more of it. Perhaps fortunately for the girl, her leg did not heal; it grew worse, and baffled the skill of a young surgeon to whom she applied. We were told she afterwards got into one of the City hospitals, on this account, and we have no doubt but she is still living. Our endeavours to find her out, and to know in what situation she is, have not yet been successful\*.

It is here worth observing, that two persons are bit by a mad cat, at the same time: the first who was bit, and the most severely, escapes; the second loses his life. The wounds of one healed presently; the other became a sore, notwithstanding endeavours to the contrary. Both used the same preventive means.

\* I have since learned that her leg continued long in a sore state, but that she is now perfectly well, Aug. 29, 1774.

May not then the happy escape of the girl be owing to the fore which followed from the bite? It seems probable; and affords a very forcible argument for enlarging the wounds made by the bite of mad animals, and promoting a discharge from them as long as possible. Perhaps this is the only sure preservative against the direful effects of this malignant venom we are yet acquainted with.

It is with some repugnance we point out the inefficacy of a medicine, which in this country has established a reputation of its being an infallible preservative. Perhaps it has had its use in being so esteemed by the generality; for it is undoubtedly true, that many persons have suffered almost as much as they could have done from the most poisonous bite, by representing to themselves the miseries they were exposed to. A medicine that could powerfully assuage these apprehensions, from a general opinion of its salutary effects, has certainly been beneficial to many; and so have a multitude of other famed prophylacticks.

But as this medicine, which has survived the reputation of many others, has in this instance been found to be ineffectual ; it seems to be absolutely necessary to apprize the public of the fact, which, as far as one evidence can extend to, is decisive : The same medicine procured by an unexceptionable hand (the apothecary, who urged its being given, from a thorough persuasion of its affording perfect security) from the place authorised to sell it ; and given precisely according to the prescriber's directions, to two persons bit by the same animal, and at the same time ; the person first bitten escapes, the second dies of the *Hydrophobia*.

Was it not of the last consequence to those who may become the unhappy objects of such applications, to be informed that even this medicine had failed of success, we should not endeavour to bereave them of the comfort which the unfortunate might derive from an opinion that it was infallible ; but when there is such evidence to the contrary, it becomes necessary, for the public benefit, to endeavour to remove preju-

dices that may be fatal to the real safety of individuals.

To enquire farther into the merits of this, or any other preservative against the poisonous bite of mad animals, would take up too much room in your collection. This, however, would be no unprofitable employment for a person of suitable leisure and abilities; and we are not less in doubt about the efficacy of all those remedies which have been urged by the several proposers, as extremely beneficial in the cure of this distemper, even in its last stages. We are confident that divers have been mentioned as being cured of the effects of such bites, who never had one genuine symptom of the disease thence arising.

At the same time that we suggest opinions which may tend to destroy that happy confidence which has prevented much suffering to individuals; and whilst we own our apprehensions that none of the celebrated medicines hitherto proposed to the public can safely be confided in, either as prophylacticks or as curatives; we would earnestly recommend



mend one means of preservation, which not only the present instance before us, but extensive experience seems to establish upon a solid foundation; that is, after having washed the part, and cleansed the surface as quickly as possible from the poison, to enlarge the wound immediately by actual cautery, the knife, or any other speedy and effectual method; and to promote the discharge as long as is possible. This being effectually done, affords the surest ground for a proper confidence and security against future mischief.

Two circumstances we take the liberty to suggest, as deserving some attention.

The first is, in case of a bite from a mad animal, to recollect what part was bit, and, if through any, through what kind of covering. A bite through thick garments, or leather, as the teeth of the animal would probably be wiped quite clean from the venom, ought to give less uneasiness than when it happens to the naked skin.

Second,



Second, Not to kill the animals, if it can be avoided, till it is past a doubt they were mad. On both these circumstances may depend considerable satisfaction to the person bit; and it may not be improper to add, that there is abundant reason to suspect that very few of those who are bit by mad animals are liable to be affected by the *Hydrophobia*, or other fatal effects of the bite. This, however, is not intended to abate the care that is due on these occasions, but as a proper antidote to that despondency which is often the consequence of this accident.

In respect to our conduct in the present case, it is submitted to your censure. We acknowledge we despaired of our patient's recovery. If we kept partly in the track our predecessors had recommended, as circumstances admitted, so far we were justified: but we went further, we pursued such means as we thought most likely to have one of these desirable effects; to keep up the forces of life, by conveying into the habit every kind of nourishment by the passages left open, viz. the bowels and the skin, and thereby

thereby enabling Nature to support the contest longer ; or else, to calm and relax, and render the conflict at last less terrible to the assistants, and less painful to the sufferer.

We thought ourselves justified, from considering the state of the pulse, and other circumstances, to take away some blood, and repeatedly. That we might not reduce the strength beyond what appeared necessary, we chose to order it to be taken from the patient standing ; because, we were satisfied, he could not lose so much blood in that situation as would be detrimental without fainting, much sooner than he would have done in a sitting or decumbent posture.

ADDI-

# ADDITIONAL DIRECTIONS

FOR THE TREATMENT OF

PERSONS BIT BY MAD ANIMALS.

1st, **P**REVENT the animal supposed to be mad from being killed, if possible, till it is past a doubt that by refusing sustenance in any form, and other circumstances usually accompanying this state, it is evident the creature is mad. Let all possible care, however, be taken, in the mean time, that he be confined in such a manner as to injure no other animal. This attention, though it does not contribute to the cure, it may to the comfort of the patient.

2d, Observe whether the wound is made through any covering, and of what kind ; as much satisfaction may be afforded to the patient, if the wound was made through thick clothing or leather.

3d, Remove the flattered cloths as soon as possible, and wash the wounded or bruised parts

parts with water ; in which if a little salt is dissolved, it can do no harm.

4th, Consider in what manner the wounded part may be treated, so as to keep it discharging as long as possible. If in a fleshy part, and the patient will submit to it, excision of the wounded part is the best security from danger.

Where this operation cannot be admitted, the actual Caustery, the Lunar Caustic, a Veficatory may be applied with advantage, according as the part, the age of the patient, and the situation may direct. In every case let the wound be kept open as long as it can be done conveniently. A small quantity of gunpowder, a little moistened, spread upon the part, if only scratched by the teeth of the animal, or put into the wound if large enough to receive but a little, and then kindled with a lighted paper, will, perhaps, as suddenly, as easily, yet safely enlarge the wound, as can be effected by any other means, and occasion such a kind of wound as will not instantly be closed.

The

The choice of these several methods must be left to the operator. Wounds in the hands, feet, or face, will not admit of the injured parts being cut out so safely, as might be done on the muscular parts of the arms and legs.

The time, likewise, of keeping the wounds open must in some respect depend on their situation. To keep open a running sore for a long time on the face and hands would be difficult, and productive of various inconveniencies.

Of all the prophylactics yet offered to the public, experience has proved there is not one to be depended on; it may, perhaps, be worth while to consider in this place the means of prevention principally in vogue.

When a person is bit by a mad animal, the first thing usually thought of is, Sea Bathing. The party is sent to some bathing-place, where there are commonly persons employed in this business, who, by keeping the patient long under water, and dipping

K k him



him repeatedly, reduce him almost to a state of suffocation. Some of the salt water gets into the *trachea*, more into the stomach, and proves sometimes a brisk purgative. Here the process ends, and the patient is deemed to be secure from any future accidents on account of the bite.

The reader will have observed in the preceding case, that the whole of this process is founded on mistake, and it is certain that divers who have undergone the utmost severity of this discipline, have died of the *Hydrophobia*.

The *Pulvis Antilyssus* of Dr. Mead has had no better success, and is now almost wholly forgot.

No medicine, as a preventative, seems to have maintained its credit so long as that called the Ormskirk remedy. It is called so from the name of a town in Lancashire, near which the gentleman lived in whose family the secret has been long preserved, and from thence distributed with such apparent

parent success, as to be generally deemed infallible for preventing the Canine Madness. I am sorry there are more instances to the contrary, than that which is related in the preceding account.

The Tonquin medicine, composed of Musk and Cinnabar, has been equally unsuccessful. All these different medicines have been employed by practitioners, and all of them have failed.

Dr. James, who had great credit amongst sportsmen, and great opportunities of observation, thought Turbith emetics and mercurials certain antidotes; but these, likewise, have had the same fate with others; they have been neglected, not because their promoters were no more, but because they were found to be insufficient.

His practice, however, and some other publications, turned the attention of physicians to mercurials, and they have of late been considered as the most certain antidotes to the Canine Madness. We gave them a

ficulty that medicines of any kind, or in any form, after a day or two have elapsed, can be got down.

The case which Dr. Watson and myself attended, concluded, like all the instances of the genuine *Hydrophobia* on record, fatally. Had we the same ground to go over again, for my own part, I confess I know not of a more reasonable plan. I would not, however, discourage others from pursuing their own ideas; some fortunate event may, at length, make us better acquainted with the nature of this poison, and point out a specific remedy.

Should another accident of the like nature occur, until we are directed to a more rational and successful method, I should still be inclined to pursue a plan similar to that which we laid down in our treatment of the case before described. Its basis was, to prevent the loss of strength as much as possible, in order to gain time, and afford the best chance of relieving the patient. In this disease we are early precluded from the usual means

+ Why the order repeated the day?

means of effecting this purpose, as the patient soon finds himself incapable of swallowing any kind of nutriment in a proper quantity, as hath been already mentioned.

Two methods, however, still remain of assisting the patient, though imperfectly. First, by clysters. By this means, a large quantity of aliment may be supplied. Broth, milk, eggs, in various shapes, may be exhibited in small quantities, that they may be retained, whilst larger promote their own rejection.

Secondly, by baths. It is probable that by this method large supplies of fluids may be introduced into the habit, by means of the absorbent vessels, placed on the surface of the body every where.

Whether any useful additions can be made to warm water can be determined only by experience. Perhaps broth, moderately salted, with the addition of aromatic herbs, might be used alternately, with warm water, to which may be added a handful or two

of that composition sold by the perfumers under the name of *Pot Pourrie*, and a proportion of Bay Salt, sufficient to make it nearly equal to salt water, or about twelve ounces to every four gallons.

Whatever bath is made choice of, the patient should continue in it as long as it is easy to him, and in a degree of heat that he bears with pleasure, perhaps from 80 to 86 degrees of Fahrenheit's thermometer. The patient may be wiped dry, put into a warm bed, a clyster given of half a pint of broth, with a raw egg beat up in it; and both this and bathing be most industriously repeated.

From the trials made with opium, it does not appear, that this drug has had any beneficial effects. It is difficult to get it down in any quantity at the time we most want it, in any shape. By clysters it may be given, had we any reason to conclude it would be beneficial. In regard to its external application I am persuaded from experiments, that if the skin is whole, opium never produces any soporific effects.

Applied



Applied as a plaster, or a cataplasm, it will produce the same effect as any simular plastick, semirefinous substance, and no more. In tincture, it will act as spirit would act, impregnated with such a kind of substance, void of all anodyne quality, and in no other way. Half an ounce of opium softened into the form of a poultice, and applied to the belly of a healthy new-born infant, did not produce the least anodyne effect. The like trial has been made with Mithridate, Venice Treacle, and Laudanum, and with the like result. In a disease so swift in its progress, it is of consequence to know what *will not be efficacious*. It compels us to look around for other auxiliaries.

If mercurials can be of use, it would seem that the steam of cinnabar would be worth a trial. By this means it would be practicable to impregnate the air in which the patient breathes, should he be incapable of admitting the fume in the usual mode, into the *fauces*, so as to produce the effects of mercury on the parts affected the most speedily.

When

When the patient comes out of the warm bath, the mercurial ointment may be applied liberally. I am afraid it will be found as ineffectual as the other means hitherto made use of; but in cases like this, it is better to try a medicine of whose efficacy there may be some doubt, than none at all.

In respect to bleeding, I have only one thing to observe. If the patient is bled standing, till he shews a disposition to faint, it may be done without hazard; it may abate a little of that inflammatory disposition, which is the consequence of continued irritation.

It would, perhaps, at length contribute to remove this uncertainty, if those who are applied to on these interesting emergencies, would consider themselves as obliged by the honour of their profession, and the ties of humanity, to note with all possible precision and impartiality every incident in the progress of this disease; and whether they pursue the hints here suggested, or  
take

take up more rational ones from their own store, would communicate the result to the public. By this method the field of conjecture would be contracted, and our successors directed to new objects of investigation. The result would be not less honourable to those who engage in the search, than beneficial to mankind in general.

XXII. *Case of an Angina Pectoris, with  
Remarks\*.*

**I**N the autumn of 1773, I visited R. M. Esq; a gentleman aged about fifty-eight, of a size above the middling, his complexion rather fair and sanguine than swarthy, plump and full, disposed to corpulency, but not so as to render him unfit for any kind of exercise.

For the most part he had enjoyed very good health during the greatest part of his life, which was active, regular in common, temperate as to liquors, a good appetite, and accustomed to a plain but plentiful table, as I was informed by my friend and neighbour W. Fowle, who attended him as his apothecary, and gave me the following account:

“ He was seized about the year 1770 with a remarkable giddiness, which was at times extremely troublesome to him, and never

\* From Medical Observations and Inquiries, vol. v.

left him entirely, though the intervals of the severer attacks were frequently pretty long. For this complaint he had at first a blister on his head, which was kept open several months; and afterwards had one upon his back, which was also kept open a good while. He took at different times valerian, with salt of hartshorn, *lac ammoniacum*, decoction of the bark with valerian; but, excepting the blisters, nothing appeared to give him any material relief.

“ In July 1773 he was attacked with a spasm in the breast, which at first affected him only when he used exercise, and chiefly when he walked up hill. I desired him to apply a small blister to his stomach, and to take a quarter of a pint of buckbean tea twice a-day. The blister gave him great pain, and he was obliged to let it heal very soon. The buckbean tea did him no good. I then gave him the gum-pill and guaiacum, mixed up with *Bals. Peruv.* He took the pills morning and evening, and washed them down with the camphorated julep, to which was added some simple  
tincture



tincture of valerian. These medicines at first appeared to do him some good; but the disease shortly after returned with greater violence, when you was consulted; and he died the 10th of May following."

I soon found there was too much reason to suspect this disease was of that kind which is so fully and judiciously described by Dr. Heberden, in the second volume of the Medical Transactions, a disease which I had too often met with; as it terminated for the most part fatally, and without its being in my power in one single instance to learn from dissection the seat of it, or to acquire any satisfactory information of its nature, from the most attentive recollection of the several symptoms.

It was in the evening when I saw the patient; and at that time he was free from any complaint, as he sat still. His heat moderate; his pulse sufficiently full, but for the most part irregular; his appetite good, and the discharges as they ought to be, only rather disposed to costiveness.

He

He complained that his giddiness was still troublesome at times ; but that a disorder, which frequently affected his breast, especially on motion, and occasioned much difficulty in breathing, gave him the greatest uneasiness.

That in walking, if he either went up the slightest acclivity, or endeavoured to walk faster than a certain pace ; or if the wind was high, and met him as he walked even moderately ; he was obliged to stop. He described it as a kind of stricture surrounding his chest, principally in a line with the *mammæ*, in such a manner as to render it impossible to take a step further without the hazard of immediate suffocation ; a sharp, pungent pain most particularly affecting the parts under the left breast, extending *itself* upwards on that side, and down the inner part of the left arm, to the elbow. These symptoms, on turning from the wind, and standing still a few seconds, went off, leaving only the remembrance of their severity, and a caution to proceed more deliberately.

The

The weather seemed to have some little effect upon him; a sharp, keen air, or a high wind, or an extreme of any kind, affecting him very sensibly.

Going up stairs, and getting into bed, were great difficulties to him: nor did the stricture always cease upon lying, or rather sitting down in bed. It would sometimes continue to harass him for an hour or two, and frequently returned about one or two o'clock in the morning, or at day-break.

He had felt occasionally a smart and sudden fit of pain in one foot, with some small swelling, apparently of the gouty kind. His age, his manner of living, his general habit, seemed to favour an opinion, that his disorder might partake of this malady. He had found too, that eructations often terminated his pains; and that nothing facilitated these discharges so much as simple peppermint-water: it was always by him in the night, and gave him ease even when a reasonable dose of a paregoric had been given without benefit.

Willing

Willing to hope that this case might partake considerably of a gouty nature, and consequently that there was some chance of relieving it, I proposed such a plan both of diet and medicine, as might tend to enable the constitution either to discharge the gouty matter through the emunctories, or to throw it upon the extremities: to abstain from every thing heating, not however to drink much less wine than usual, and to observe caution in respect to quantity of proper food. Sometimes the disorder seemed to be less severe; but no lasting advantages were gained: at length recourse was had to an anodyne at night, which was repeated either in the night, or towards morning, as the constrictive exacerbations required. Twenty-five drops of *tinct. theb.* with a like quantity of *vin. antim.* at night, and ten drops of the same tincture in a little draught early in the morning, procured for a considerable time the appearance of much benefit. This however was not lasting; upon any little exertion of muscular force, the disorder still discovered itself, and with as much violence as at first.



With a view to assist his general health, which seemed now to be much affected by the continuance of these complaints, he drank the Bath-water at Bath several weeks. Some more pain was observed in one foot, whilst at Bath, and a swelling sufficient to shew it was the gout. His health was somewhat improved by the journey and the waters; but they did not alleviate the original pain in his breast, which sometimes came so suddenly and violently, towards the mornings especially, as to alarm those about him with fears of his immediate death, and which at length happened very suddenly, in the morning.

The family condescended to have him opened, which was performed by my ingenious friends the Langleys, father and son, judicious surgeons in the neighbourhood, from whom I received the following account, not being able, through some prior engagements, to be present at the dissection.

“ On inspecting the body of R. M. Esq; the parts were as follows :

In



In the THORAX.---The *mediastinum* much loaded with fat; a quantity of water under the lungs, about a quart on each side, thin and transparent, nearly resembling urine. The lungs in good condition, except on the upper part of the right-side, there was an adhesion to the *pleura*, of about an inch, but without inflammation. The *pericardium*, on the outside, loaded with a large quantity of suety fat, but more so on the lower side, next the diaphragm. The lymph, in the inside, about the usual quantity. The heart of the usual size. The auricles and ventricles with all the vessels and valves perfect; not the least ossification or appearance of disease, except on the outward muscular part, near the *apex*, a small white spot, as big as a sixpence, resembling a cicatrix.

In the ABDOMEN.---The *peritoneum* perfect.

The *omentum* much enlarged and thickened, at least six times its natural thickness. The fat of a yellow appearance, and much

firmer than usual, very heavy, and the lower part adhering to the *peritoneum*.

The STOMACH.---In the inner coat, a good deal of inflammation, particularly about the valve in the *pylorus*.

The LIVER;---rather more florid without than usual; on the back convex part of it was an unusual prominency, near the size of an egg; but on opening it, no appearance of disease.

The GALL-BLADDER;---full, and much distended, but no stones."

The first case apparently of this nature that occurred to me, was above twenty years ago; and the person is now, or lately was, living, and in good health; not having of late years, so far as I have heard, been attacked with this complaint. He was at that time about thirty years of age, and the youngest subject I have ever seen affected with this disorder, which is so strongly marked,

marked, as cannot easily be mistaken for any other.

He was rather of a low stature than tall, a short neck, strong, temperate, and accustomed to regular, but not violent, exercise. Without any perceptible cause, he found himself sometimes obliged to stop suddenly, if he was either walking up hill, or a little faster than ordinary, or if he was riding a very brisk trot. Moderate motion of any kind did not affect him. Finding the disease increasing, he applied to me for assistance. He lodged at a relation's, in Cannon Street; from the end of it in Gracechurch Street to White Hart Court, where I then lived, is a very gentle ascent; but in that short space he was obliged to stand still several times, to recover from a kind of stricture about his chest, as he described it, that threatened him with death, if he had been forced to go forward. He had just dined, and this had added to his difficulty, having himself observed, that he suffered less in motion when his stomach was empty. From the description of the pain, its course, which was across

the breast, and down both arms to the elbows, I could not forbear suspecting the sixth pair of nerves and their numerous connexions were the seat of this disease; that some irritating cause, excited by motion, affected them, and that the parts they were principally distributed to suffered in consequence. The lungs did not appear to be affected; no preceding cough or symptoms of inflammation, no catarrhal defluxion, no appearance of a dropsy of the thorax, nor any fugitive acrimony, that seemed capable of producing such sensations.

I recommended a sparing diet, to keep the bowels open, to use moderate exercise on horseback; not to take long or fatiguing walks. He took some pills of soap, *pil. gummos. cinnab. nativ.* and a light chalybeate bitter for some months. After this, he went to Bath several successive seasons, and acquired his usual health,

This is the only instance that has occurred to me of a perfect recovery from this obscure, and too often fatal malady. Some have been  
much

much relieved for a considerable time, and I have heard nothing farther concerning them; but for the most part, if the disease attacks them late in life, the prognostic is unfavourable.

Perhaps it will be difficult to account for the symptoms attending this disease satisfactorily, from the appearances on dissection. In a case not altogether dissimilar in that distinguishing character, the constriction which the thorax suffers upon accelerated motion, and where there was reason to suppose from the symptoms, that most of the thoracick and abdominal viscera were in a morbid state, nothing of this kind appeared on dissection but a small ossification in one of the mitral valves of the heart, some additional quantity of moisture in the *pericardium*, some in the cavity of the *thorax*, and of the *abdomen*; but the whole surface of the body was drenched, as it were in water; a general *anasarca* covering both the trunk and limbs, with an utter inability to move without feeling a very sharp stricture about the *thorax*.



This circumstance induced me to request the gentlemen, who opened the body, to attend to the condition of the heart, with all possible accuracy ; and it appears from the preceding account, that nothing preternatural was therein observed, except on the outward muscular part, near the *apex*, a small white spot as big as a sixpence, resembling a cicatrix.

Another circumstance likewise induced me to inquire more particularly after the condition of the heart, which is, that I have very seldom met with this disease, but it was attended with an irregular and intermittent pulse, not only during the exacerbations, but often when the patient was free from pain and at rest.

No doubt, as there are no two human bodies precisely alike, so there will be a great diversity of symptoms ; but there is one in this singular distemper, that, so far as I have seen, always marks it distinctly, which is, that sharp, constrictive pain across the breast, which always supervenes a certain degree of muscular

muscular motion, or whatever agitates the nervous system.

For the most part the patient can walk a certain pace; if he exceeds this he is stopped: if he rides on horseback it is the same; he can bear the horse to walk, or trot; but if he quickens this motion beyond a certain point, he is obliged to stop. This is a constant attendant of all the cases I have seen.

If we consider the appearances of the present case on dissection, we may perceive there are three which are evidently preternatural.

1. The quantity of fluid in the *thorax*.
2. The unusual quantity of fat on the *mediastinum*, the *pericardium*, and *omentum*; and,
3. The scarlike appearance on the heart; the inflammatory appearance in the stomach, the little protuberance on the liver, do not  
amount

amount to any thing like causes productive of such effects.

The consequences of the increased quantity of a watery fluid, and fat in the breast, would doubtless be a more laborious breathing, from the lungs being confined within narrower bounds; but as these are permanent causes, the effects would be uniform.

It is very probable likewise, that a heavy pendulous *omentum*, so much increased by fat, would affect the action of the diaphragm very considerably, especially in an upright and decumbent posture, and would sometimes impede, sometimes accelerate, the motion of the blood through the heart and lungs considerably.

This preternatural fulness of the *thorax* and appendage to the diaphragm, though they assist us in part to account for the disease, yet seem not to be the only causes of this distemper. Time and future opportunities must inform us of the rest.

However,

However, the facts discovered on the dissection of this body evidently suggest to us a nearer approach to reasonable indications of cure. On reviewing several of these cases which have fallen under my observation, I think they have generally attended persons who were disposed to be corpulent; it is therefore not unreasonable to suppose, that a part of their disorder has arisen from a deposition of fatty matter in some parts of the *thorax*, which, by hindering the expansion of the lungs, interrupting the natural free action of the heart, and perhaps by pressing too much on some branches of nerves, distributed to these parts for the most necessary purposes of life, if they are not the principal, yet are they among the causes of this disease. The collection of water in the *thorax* contributes to the same end; and it is not improbable, but that in future dissections, these three preternatural appearances will be found: the substance of the heart itself affected; water in the *thorax*; and an increase of fat both in the *thorax* and *abdomen*.

In attempting to cure this disease, therefore, it would seem not an unreasonable plan, to endeavour to increase the thinner secretions, by the several means employed for this purpose, of the urine especially.

And to prevent the accumulation of fat. This last may be a difficult task, and requires great circumspection, considering the time of life to which this disease is most peculiar.

The case which I first saw, was in a person of that time of life, which would have admitted of such a regimen as most commonly reduces the very corpulent to a competent size. Past the meridian of life, to conquer this tendency, might both be difficult and hazardous. An exact temperance in diet and in liquors seems absolutely necessary towards the cure of this disease, not so far as to weaken, but so as to cut off all superfluity of nourishment, as the redundancy would most probably increase the disorder.



A strict vegetable diet reduces exuberant fat more certainly than any other means I know. A case or two of this kind may not perhaps be wholly foreign to our subject.

A country tradesman, aged about thirty, of a short stature, and naturally of a fresh, sanguine complexion, and very fat, applied to me for assistance. He complained of perpetual drowsiness and inactivity. His countenance was almost livid; and such a degree of somnolency attended him, that he could scarce keep awake whilst he described his situation. In other respects he was well.

I advised him immediately to quit all animal food, to live solely on vegetables, and every thing prepared from them, allowed him a glass of wine or a little beer occasionally, but chiefly to confine himself to water. He pursued the plan very scrupulously, lost his redundant fat, grew active as usual in about six months. I recommended a perseverance for a few months longer; then

then to allow himself light animal food once or twice a week, and gradually to fall into his usual way of living. He grew well, and continued so.

A young unmarried woman, about twenty-three years of age, of a low stature, and very fat, applied to me for assistance in a great difficulty of breathing, somnolency, and incapacity for any exercise. It was a hardship to be obliged to go up stairs, and at last to cross the floor of her apartment.

It seemed to me that mere obesity was her principal malady: indeed she had no other complaint but such as apparently might be accounted for from this supposition. She was ordered to pursue a vegetable diet, and in the summer to drink the waters at Scarborough. She conformed to these directions, became more agile, less sleepy, less averse to exercise. She walked up the steps at Scarborough from the spaw, a task of no little difficulty to people much less encumbered. I urged a continuance of

the same diet: she was dissuaded from it by her friends, and died of fat in the twenty-seventh year of her age. She left permission with her sister, to be opened, if it was desired: the case was too singular to be neglected: all the *viscera* were perfectly sound, but larded with fat beyond apprehension. In dividing the external teguments, we cut through  $2\frac{1}{2}$  inches of fat. She died suddenly.

Some instances of a similar nature, in which a vegetable diet has safely contributed to reduce immoderate corpulency, induces me to think that a prudent trial in the case I am treating of would be adviseable. Perhaps a reasonable use of wine, not a generous one, should here be allowed, lest the strength should be diminished too much in proportion; and if the power of absorption should by this means fail, we may probably lose more ground, by the increase of the *serosa colluvies* in the cavity of the *thorax*, than what we gain by subtracting the fat.

All the means of increasing the thinner secretions are evidently pointed out as necessary,

cessary, from this dissection ; and if to these we join small doses of chalybeates, or other medicines, and an abstinence from animal food, so far as the patient's health, situation, and manner of life will admit of it, we are perhaps rendering all the reasonable assistance we can, till future discoveries make us better acquainted with the real causes of this singular distemper.

XXIII. *Further Account of the Angina Pectoris* \*.

SINCE my former paper on this subject was delivered to the Society, I have had another opportunity of being informed by dissection of some circumstances relative to this disease, which are here submitted to your consideration.

H. R. Esq. aged 63, a gentleman rather inclined to corpulency, but active, and of a very irritable habit, middling stature, and fresh complexion, employed in affairs that often required attention and confinement, writing especially, complained to me three or four years before his death, that he often found a difficulty, or rather an incapacity, to walk up a moderate ascent, especially if he attempted to do it hastily. I soon perceived that this obscure disease, which had hitherto for the most part baffled all my endeavours to remove it, was taking place. I advised

\* From the Medical Observations and Inquiries, vol. v.



great temperance and moderation in diet, in drinking, and application ; to ride frequently, pass his summers in the country, to shun every thing that would agitate his spirits, or depress them : a gentle laxative medicine, and stomach bitter to be continued for a fortnight, and occasionally to be repeated, promoted his general health ; and his own care contributed greatly to prevent the increase of this malady. In the summer of 1774, he spent a few weeks at Buxton, where he bathed and drank the water, and returned to town in better health than he had enjoyed some years before. Being much disposed to flatulency, he now and then took a warm cardiac draught, which he found relieved him, and pretty often some aloetic pills, to prevent costiveness, but pursued no other plan of medicine, contenting himself with observing, and with some degree of attention, the general regulations I had prescribed to him ; and though it did not appear that much ground was hereby gained, the same constriction returning if he attempted any exercise beyond a certain point, which his own experience had taught him, yet he perceived

ceived no increase of the disease. He occasionally consulted me, but rather with a view to be confirmed in the plan proposed to him, than with a hope of obtaining effectual relief, as he was very apprehensive that he laboured under the disease which Dr. Heberden had so fully described.

On the 13th of March 1775, in the evening, in a sudden and violent transport of anger, he fell down and expired immediately. His family were prevailed upon to allow the body to be opened, which was done the next day, by that very skilful and accurate anatomist, John Hunter, F. R. S. whose account is as follows :

*The Appearances upon opening the Body of  
H. R. Esq.*

“ The blood had settled very generally on the skin, appearing in dark purple spots.

In opening the chest, I found the cartilages of the ribs very much ossified.

In the cavity of the chest I found a full quart of bloody serum.

The lungs were to all appearance sound.

The heart to external appearance was also found; but upon examination, I found that its substance was paler than common, more of a ligamentous consistence, and in many parts of the left ventricle it was become almost white and hard, having just the appearance of a beginning ossification.

The *valvulae mitrales* had a vast number of such appearances in them, and were less pliant than in a natural state; but did not appear to be unfit for use.

The semilunar valves of the aorta were thicker than common, but very readily filled the area of the artery.

The aorta had several small ossifications on it, and several white parts, which are generally the beginnings of ossifications, and which were similar to those found in the heart and *valves*.

The

The two coronary arteries, from their origin to many of their ramifications upon the heart, were become one piece of bone.

The abdominal *viscera* appeared sound, excepting a few small stones in the gall-bladder.

On opening the skull, I found it very thick in many parts. Upon the forepart of the falciform ligament was a considerable ossification, which lay between the anterior parts of the two hemispheres of the brain.

The substance of the brain appeared to be very sound.

There was rather more water in the ventricles than is common at that age; and in general, there was more water about the brain than is usually found.

The plexus-choroides had several pretty large hydatids in them, some as large as a pea.



The internal carotid and basillary artery were beginning to ossify.

There was rather more blood about the brain than usual; but perhaps not more than what is common to those who may be said to die in health.

The blood had not in the least coagulated in any part of the body, nor did it coagulate upon being exposed, which is another cause for the appearance of more blood than usual, and also perhaps for its settling so much on the skin."

This very accurate dissection throws much light on the nature of the disease; and tho' perhaps it may not assist us in curing it, yet will enable physicians to give such assistance and advice, as may contribute much to the cure of such as are afflicted with this malady, and promote the continuance of their existence.

The state of the parts about the heart fully shews, that under such circumstances,



it is impossible to bear with impunity the effects of sudden and violent agitations, whether they arise from gusts of passion, or suddenly accelerated muscular motion.

To propose such a kind of diet as may be the most likely to prevent such irritability. To recommend likewise attention to quantity. To be particularly abstemious in respect to every thing heating, spices, spirits, wines, and all fermented liquors. To guard most scrupulously against passion, or any vehement emotions; and to make use of all the usual means of establishing and preserving general health.

To mitigate excesses of irritability, by anodynes; or pains, if they quicken the circulation. To disperse flatulencies when they distend the stomach, by moderate doses of carminatives, amongst which, perhaps, simple pepper-mint water may be one of the safest, will perhaps be the means of continuing many a valuable life to his family.

And it is not improbable, but if on the first appearance of this stricture, especially in an age not too far advanced, the plan proposed might greatly retard the progress of this disorder, by assisting to restrain excesses of passion and anxiety, which perhaps contribute more to the increase of this disease, than a combination of all the other causes,

XXIV. *Further Remarks on the Treatment of Consumptions, &c.* \*

TO the MEDICAL SOCIETY in LONDON.

GENTLEMEN,

**I**N the last volume of your Observations, you were pleased to admit some remarks on the use of refinous medicines, employed in the cure of pulmonary consumptions †, and which seemed, in my opinion, to be rather injurious than useful. I take the liberty to lay before you some further remarks on the treatment of this disease; rather proposing to myself the prevention of harm, than contributing much to the cure of this very dangerous malady.

It was there pretty strongly urged, and cannot well be too often repeated, that if this disease has continued till the lungs are affected to a certain degree, all hope of a

\* From Medical Observations and Inquiries, vol. v.

† See p. 373 & seqq. of this volume.

cure is vain: a doubtful, and often short-lived truce is all that art can promise.

In this paper, I mean to submit to your consideration, and if you do not disapprove them, to that of the Public; some reflections on the more capital medicines employed in the cure of this distemper;—the bark—elixir of vitriol—repeated bleedings—vesicatories; not omitting Bristol water, and change of air and climate; exercise; with such other observations relative to this subject as have occurred to me.

With this view I shall chiefly attend to the effects I have observed, and if I have formed any opinions upon insufficient ground, I shall be glad to be set to rights; as I think there can scarcely be any thing more injurious to society, than to propagate wrong notions respecting the treatment of diseases; as they may chance to lead the less experienced to a precipice with his patient, where one of them may lose his life and the other his reputation.

Of

Of late years the bark has been given so generally, and in cases so remote from those in which it was first used as a specific, I mean intermittents of every species, that it is not to be wondered at, that it is often confided in, as a dernier resort, in the pulmonary hectic.

The apparently regular paroxysms of an intermittent, so conspicuous in certain stages of this disease—regular cold fits, succeeded by great heat, followed by copious sweats—a cessation of every violent symptom ensuing, naturally draw the attention of the practitioner to a remedy, which, under like appearances, had afforded the most beneficial relief.

The bark has been pushed, in this stage of the distemper, in too many instances, with as much vigour as is necessary to conquer the most genuine autumnal intermittent—till both the patient and prescriber were weary of the process—the patient loathing the remedy, and the prescriber finding it ineffectual.

But



But this is not the worst: the bark is so far from curing the hectic arising from dis-tempered lungs, that, according to the best of my observation, it not only takes up that time, which might probably have been better employed in the use of other medicines, but, for the most part, it aggravates the disease beyond remedy.

I have seen the bark given in almost every state of the *phthisis pulmonalis*, even in the first commencement, whilst the breast was in pain, the cough dry and harsh, the pulse quick and hard, and the heat considerable. What was the consequence? frequently an *hæmoptysis*, and all its worst attendants; ulcered lungs, purulent spitting, colliquation, and death.

I have seen it given in most of the subsequent stages, often indeed with less appearance of injury, but at least without benefit.

There are two causes of consumptions, which often produce such a similarity of symptoms

symptoms to the genuine *phthisis*, as sometimes to have led me to make use of the bark in apparent tendencies to a genuine pulmonary consumption, with advantage; and I think they may not improperly claim some attention from practitioners.

One of the causes is, the suckling of children longer than is consistent with the mother's ability. This case occurs not seldom, among the middling and lower class of females of naturally tender and delicate constitutions. Prompted by maternal fondness, or a wish to discharge a duty they think they owe to their offspring, and sometimes by narrow circumstances, they give the breast to the child till their own strength is impaired: in such a state of weakness, some slight cold brings on a cough; this is increased gradually, till it brings on the appearance, at length the reality, of the genuine pulmonary consumption: here the bark given early, in moderate doses, and merely as a tonic remedy, is often of excellent use. Many, I am satisfied, it has retrieved from deplorable situations; and under such circumstances

cumstances a prudent trial may safely be made.

Another cause is, any weakening discharge either from abscesses, or from the greater operations of surgery; or from a copious and constant *fluor albus*, or similar enfeebling evacuations. That the bark is, for the most part, of use in these cases, when the lungs are not inflamed, is indubitable; and if they are so affected, and not beyond a certain degree, it is also efficacious in preventing the progress of this malady.

In phthical complaints, succeeding such situations, a prudent trial of the bark seems necessary. Small doses of the decoction, given either alone, or joined with the saline mixture, or such other additions as the prescriber may think proper, may be given: but if the breath becomes more tight and oppressed, the cough dry, the pulse more quick and hard, and especially if slight transitory pains or stitches about the *thorax* are more frequently complained of, a perseverance in the use of the bark will increase  
the

the disease: and if such should be the appearances, in the progress of consumptions, or arising from what cause soever, if the bark is accompanied with such effects, it will be prudent to desist from its use.

If, on the other hand, no pain, tightness, or oppression, is perceived, and a manifest abatement of the symptoms appears, it will be right to proceed. But the exhibiting of this medicine requires a dispassionate observer; and whoever wishes to make trial of it, ought neither to give it in the early inflammatory state of this distemper; nor continue its use in any subsequent part of its progress, if it produces the effects above mentioned.

By its tonic virtues it will often enable nature to conquer many difficulties. I have seen it of use in promoting expectoration, where strength was only wanting to perform it toward the end of peripneumonic fevers; but that it stops this discharge, changes slight wandering pains into fixed ones, and increases them with all their consequences, I  
have



have been a witness too often, to admit of the least doubt, in a variety of cases.

It would be trespassing too much on your patience to descend more minutely into the use and abuse of this medicine, or the mode of exhibiting it; suffice it to say, that for the most part much harm or great good may be expected from it, and consequently too close an attention cannot well be paid to its operations by the prescriber.

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THE elixir of vitriol is often exhibited in consumptive cases, and may claim a consideration in this place, and the more so as it seems to be frequently used with not less impropriety than the bark.

Perhaps a single fact has contributed to raise the credit of this medicine in phthical cases, without much regard to the state of the disease, to a very injurious extent. It is said that a person took, by mistake, in a very advanced state of a consumption, at one dose, half an ounce of the elixir of vitriol, instead  
of



of twenty-five drops, the dose ordered by a justly eminent physician (Sir Edward Hulse), and that the patient not only survived the enormous dose, but was cured by it.

Medicines, it is well known, that are highly proper in one stage of a disease, are equally detrimental in another. I have seen the elixir of vitriol in a competent dose given in the inflammatory part of this distemper, while the pulse was quick and hard, the breathing difficult, the cough frequent, with much heat, and very little expectoration ; the effect was, an increase of every symptom, a spitting of blood, and all its consequences.

In the latter stages of this disease, when a general tendency to putrefaction takes place, it cools and checks this tendency ; it restrains the colliquative sweats, and if the lungs are not injured past repair, it is a very useful auxiliary.

The composition, however, of this medicine may, perhaps, be found somewhat ex-

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ceptionable

ceptionable for the purposes intended; the mineral acid combined with spices may seem to be the least eligible. It is true, that aromatics are thought to possess an antiseptic virtue; but where the putrescence proceeds from matter continually mixed with the blood from broken vessels, every thing irritating seems to be forbidden. Perhaps the *spiritus vitrioli*, in the tincture of roses, or in any other proper vehicle, may be the most suitable method of exhibiting the mineral acid in such diseases.

Probably, there are very few medicines which do not undergo a considerable change in the stomach and offices of digestion; so that neither the supposed contractile tonic powers of the bark, nor the antiseptic acid of the elixir, penetrate those recesses which are intended by the prescriber to receive their efficacy. I suspect that much good or harm is done by these medicines in the present case, by affecting the irritable parts of the stomach and first passages; and by this means I apprehend the bark oftener contributes to produce the symptoms we have  
com-

complained of, than by its action on the lungs, the seat of the disease. If we increase for a time the tonic force of the heart, and consequently the greater flow of blood thro' the lungs, we are increasing the malady for which we prescribe it, let the manner of effecting this be what it may.

The action of allum, when a little of it is dissolved in the mouth, may perhaps lead to explain this matter. It soon occasions a kind of thrill through the whole habit; by which it may perhaps contribute to suppress hemorrhages, to cure obstinate tertians, and produce other salutary effects, by acting upon the solids only; and the mineral acid in the elixir may, in like manner, so affect the organs of taste and the nerves of the first passages, as probably to operate as powerfully in suppressing immoderate evacuations, by this means, as by any other we can conceive.

When, therefore, the vessels act with sufficient force, and are replete with juices, and when these ought to be prudently reduced, in order to give all possible ease to the lungs,

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and

and conciliate a repose to them, as much as is consistent with their offices; it seems highly improper to give medicines which, let their *modus operandi* be what it may, are known to possess a power of invigorating, and are generally made use of in all cases for that purpose. And as there are many situations in the progress of Consumptions, in which medicines producing such effects, cannot but be injurious; it will be always necessary to regard these situations with all possible attention.

Of the use of Bristol water in the cure of this distemper, so much has been said and written, and such are the diversity of sentiments concerning its efficacy, that it may seem to border upon rashness to hazard an opinion concerning it. I shall suggest, however, the result of my own observations, and submit most willingly to better information.

I have seen many persons recover from pulmonary diseases after drinking the Bristol water, whose cure seemed to be doubtful  
from

from any other process ; this circumstance, added to its general reputation in phthifical cases, has been a sufficient inducement to me to recommend a trial of this water in the early stages of phthifical complaints.

And here I would wish again to inculcate this remark, that it is before the approaches to a confirmed phthisis, that patients ought to repair to Bristol ; otherwise a journey thither will be, not only without benefit, but will probably be detrimental.

Those who can prevail upon their patients to go thither before the disease has affected the lungs, beyond a possibility of assistance from this or any other remedy, have often the satisfaction of seeing their patients return in good health ; whilst those who delay the use of these waters to the last extremity, too often fall sacrifices to their own irresolution, and leave an impression on the minds of others injurious to the water.

It may be said that the journey, a better air, change of situation, and of objects,



have contributed to the patient's recovery : Be it so ; these circumstances are all of them conducive to health in every chronic disorder. Perhaps, in none more so than in that which is the subject of these remarks. But why should it be supposed that the Bristol water has no share in the recovery ? Supposing the water to be void of any great efficacy, is it of no consequence to phthysical patients, to be obliged to be out of their rooms early in a morning, in the cool, fresh air ? Are repeated draughts of a light, tepid water of no use in washing off impurities, allaying heats by mere dilution, and supplying the waste of juices exhausted by copious perspiration ? Hope itself is of vast moment in the cure of many diseases ; and it is perhaps not inconsistent with the duty we owe to our patients to promote it, whilst we ourselves retain a hope of their recovery.

But it seems to me that the water drank fresh at the pump, actually contains principles conducive to the recovery of patients affected with phthysical complaints. What these principles are, may be difficult to define. The

The water seems to possess a slight calcareous stypticity, and perhaps the air it contains may also have an antiseptic quality. In this place it may be enough to say, that I think the Bristol water an efficacious medicine, and that I have often found it of signal benefit to consumptive patients.

Were the annals of the Hot Wells consulted it would appear, that those records are against me. But whence does this arise? From two causes; first, from the patients themselves, who, in these disorders, being seldom apprehensive of any danger, will not listen to a prescription which either thwarts their inclinations, or seems inconvenient. Secondly, from the physician too easily complying with these hesitations, and not urging the necessity of such a journey, at a time when it might be advantageous. As the disease advances towards its last stages, then, perhaps, alarmed by their own fears, or the intreaties of their friends, they consent to undertake a journey, which wastes the small remains of strength they have, and brings to the Wells additional proofs of their

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inability

inability to remove distempers totally incurable. Hence it is, that the opinion of the faculty is so much divided, in respect to the use of these waters.

Change of air is of much consequence in all chronic diseases of the lungs, sometimes even from good to bad. It is not seldom that we see asthmatic persons breathe more freely in the dampest confined parts of this metropolis than in the country, at least I have met with many such instances. In consumptive cases, however, the air of all large cities is found by experience to be particularly injurious. Whence this arises, is in this place unnecessary to explain; the fact is indisputable. When the physician advises his patient to a change of air, to point out the most proper change becomes an important object.

In the neighbourhood of most great towns in England, as well as London, there are places which have acquired a reputation amongst the inhabitants for the peculiar healthiness of their situation. I will suppose

pose these situations are well chosen; that the soil is dry; no stagnant waters in the neighbourhood; properly ventilated, yet not exposed to the keen north-east winds; where it will be easy to find sheltered walks, rides, and every invitation to be abroad in fit weather, without hazard from wet and cold. Such, I believe, from the few places I know of this kind, are those selected for the retreat of consumptive patients, in the vicinage of large towns and cities. And here it may not be improper to take a general view of such as are recommended for the like purpose, in the neighbourhood of London.

The town is surrounded, almost, by a ridge of eminences, inclosing, besides the city, a low plain to the westward, of considerable extent; on the north, Highgate, Hampstead, and Kensington Gravel-pits; on the south-east, Blackheath, Clapham, and Putney. The summits of these may be called, comparatively, high ground, and are very much exposed to the sharp north-east and easterly winds.

To direct our patients to any of these places, early in the spring, whilst these winds are for the most part as stationary as the trade winds, seems to be exposing them too much to an air that is very unfriendly to such complaints.

The vales, especially to the south-east and west of London, as Camberwell, Peckham, the lower parts of Clapham, the drier parts of Lambeth and Battersea, Fulham, Chelsea, Brumpton, and Kensington, and other sheltered, dry places about the town, would in the spring undoubtedly be the most proper.

As the more temperate season advances, higher situations may be allowed; and it would seem as improper to send a consumptive patient in summer to the low marshy grounds on the banks of the Thames; amongst the gardeners grounds at Battersea, or at Fulham, abounding with the most putrid exhalations of manure and corrupting vegetables; as it would be to order them in winter to the top of Highgate or Hampstead-hill, or the bleaker air of Blackheath.

Islington,



Islington, the general refuge of the city, would be less exceptionable, was it not quite open to the keenest north-east winds in the spring; and in summer to the smoke of the city, driven upon it by the southerly winds.

Nor is it a matter perfectly indifferent whether we send our patients to the villages at the east or west end of this metropolis; the south or the north. The town itself is covered almost continually with an atmosphere of smoke, embodied with other exhalations, so as to form a cloud more or less dense, which is visible at a great distance.

This vast body of smoke is seen to extend for several miles beyond the limits of the city and its suburbs, and is driven by the winds that prevail in the several seasons, according to their direction. In the summer season, for instance, whilst the southerly winds prevail, this dense body is driven to the north and north-east parts of the environs, and covers the herbage, the trees, and every thing, both living and dead, with black penetrating soot. In the winter and spring,  
while

while the northerly winds prevail, the opposite villages on the south-west and west side of London receive this thick atmosphere ; but with this most remarkable difference, the winter winds passing through this warmed atmosphere, lose no small part of their rigorous effects ; they are softened by it, and are proportionably less injurious to animals, and even to plants ; for vegetation is much earlier in general to the south and south-west of London, than on the opposite extremities.

I have seen the double blossomed almond tree in bloom at Chelsea, sooner by twelve days at least than any where to the north or eastward of the town in similar situations. It seems therefore necessary to consider the season and situation before we fix the abode of consumptive patients, to whom it is not merely sufficient to advise them to go into the country ; they must be assisted also to determine upon a proper place and proper conduct whilst they are there. They must have had but little experience, who are not perfectly satisfied, how little ought to be left  
to

to the discretion of the sick, in most diseases; to the consumptive especially, in respect to their conduct. I have known divers instances of persons who have gone into the country, in consequence of their physicians advice in such cases, and have had so little discretion, as to sleep with the windows of their chambers purposely left open, for the benefit of the air, in the most inclement part of the spring. The consequence was, that in a few nights the malady was increased beyond the power of art to relieve it. A physician, therefore, must descend to the minutest particulars in his directions.

If an attention to circumstances like these is necessary, to enable us to determine upon the choice of a proper residence in our own neighbourhood, how much greater must be our difficulty, when we propose to them a migration to the continent of Europe!

But before I enter upon this subject, it may not be improper to suggest some hints, relative to the different parts of our own country.

Bristol

Bristol will naturally claim our attention, in the first instance, when change of air is recommended, as in the neighbourhood of that place there are two great advantages, the water and a good air.

But if, from any particular dislike, or other more substantial reason, this is not complied with, perhaps a journey would be much more advantageous than a fixed residence in any spot, however healthy. I shall only add, that a journey is always preferable to an equal number of miles rode over in one and the same tract of country.

In the spring this journey should be to the southward ; to the western counties ;—or the sea coasts ; and in the summer, to the northward, or to Wales :—the cooler parts of Great Britain ;—Buxton or Matlock, or where any similar water is to be met with, seems adviseable. To meet the advancing spring, to return from the approaching winter, and by these means to avoid the severity of cold, so injurious to tender breasts, is the evident rule of conduct in such cases.

If

If it requires some consideration, a knowledge of places in detail in this country, nay, even in the environs of London, to determine with propriety on the choice of places for the retreat of invalids, what must be our difficulty when called upon to fix the route and residence of a consumptive patient, who seeks an asylum on the continent!

And here I cannot but lament the want of an institution, which, at no great national expence, might be attended with vast national advantages. Was a physician, or some medical person, to be placed in the suite of every British ambassador, envoy, or resident, we should soon be informed, and with some degree of certainty, of the proper places to which we might send our patients with the greatest prospect of success. Neither the partial opinion of the patients who have resided at different places, nor the transient visits of the most observing travellers, nor even the observations of ingenious, sensible physicians themselves, without a longer residence in the place than falls to the lot of most of them,

can



can enable us to judge with accuracy of their comparative advantages.

The south of France, Italy, Portugal, I mention them in the order they are usually proposed to us, are the places of general resort.

Wherever the winter is shortest, the least severe, and the least changeable, every thing else being alike, is the most adviseable. To which may be added likewise, the place of the most easy access. Thus, for instance, Portugal, by some, would be strongly objected to, on account of the sea-voyage; whilst others, perhaps, would chuse it for the sake of this easy conveyance. But if there be just reason to give one place in the neighbourhood of London, and within the compass of a very few miles, the preference to another, the difficulty of giving advice in this case, with the precision we could wish, is too apparent; and it must remain so, till further observations enable us to form a better judgment on this subject.

Of all the places we are acquainted with, perhaps the island of Madeira enjoys the most equal temperature; but the voyage and other circumstances attending it, afford very formidable objections.

Nice has of late been the general retreat of the English consumptive patients. Some places in the neighbourhood of Marseilles are also well spoken of. The neighbourhood of Naples in Italy is also much commended; and in Portugal, the vicinage of Lisbon, and Cintra, a pleasant spot, not far from that capital: In all these places regard should be had to situation; that it may be dry, near no stagnant water, not environed with thick woods, where the water is good, and the air free, but not stormy and impetuous.

To those who object to the continent, a trial of the western counties of England may be properly recommended: Should it not prove salutary, the passage by sea to Lisbon from thence is, for the most part, both safe and short. Even sea-sickness is often beneficial to the consumptive, as well

as the sea air. Impaired digestion, and, not seldom, a redundancy of bile attend these cases ; and perhaps repeated mild emetics, sufficient to cleanse the first passages, would often be of use.

One great misfortune attending these migrations, whether from London or other great cities, into the neighbouring country, or to Bristol and other places in this kingdom, or to the continent, is, that, for the most part, they are undertaken too late, both in respect to the progress of the disease, and the season.

Instead of removing at a time when a change of air and its consequences might prevent the most serious evils, they are in haste to quit their country, when perhaps neither this can be beneficial, nor is the season for a journey a proper one.

It seems too often to be the fate of consumptive patients, to do that last, which they ought to have done first ; and by this preposterous conduct, shorten their own lives, and afflict all who have any regard for  
them.

them. It happens not seldom, that when their physicians and their friends have in vain urged their departure at the proper season, they have resolved to set out on the most fatiguing journies in the depth of winter; by which they are exposed to every kind of inconveniency and hardship: if they escape with life, they aggravate their diseases, and too frequently die in the journey, martyrs to their own indiscretion.

The benefit of exercise in this distemper has been strongly urged by many writers. As it has been treated of so pertinently by Doctor Dickson, one of your colleagues, I shall say little more on the subject. It is however evident, that this great auxiliary may be abused, and that consumptive patients may use it improperly. They ride out when they ought not, and increase their disease through indiscretion. Moderate journies, in temperate seasons, and as much as may be on horseback, are of excellent use in consumptive cases, observing, at the same time, exact temperance, both in respect to diet and liquors. To ride out early in the  
O o 2
spring,

spring, in very sharp, or in damp, cold, and foggy weather, and at unseasonable hours, as, early in the morning, or late at night, is most certainly prejudicial.

Repeated bleedings, in small quantities, are considered in these cases as highly advantageous. They are so; and yet it is possible to carry this point too far; a constitution apparently abounding with blood—the blood when emitted extremely fizy—much pain in the breast—and an abatement of every symptom ensuing, are just motives to proceed. In such cases bleeding is undoubtedly proper, and to be repeated so long as the like effects ensue, and health is restored.

But in very delicate constitutions, and where the pulse may be quick, with some degree of fulness, and the blood last drawn considerably fizy, it may not be of the like advantage.

I do not think the appearance of the blood alone, though it may appear to be much inflamed, is alone a sufficient reason for bleeding.



ing. All other evidence should be called in to assist us in determining upon it; the patient's age, strength, habit, usual evacuations, and state of the disease. I mean only to suggest care; not to dissuade from the operation: bleeding carried to excess, even in small quantities, is capable of producing various ill consequences.

It may not be improper in this place, perhaps, to take notice of a circumstance which often happens in consumptive cases, and which as often claims the anxious attention of some of their friends.

It is well known that young delicate females, from the age of 15 or 16, and upwards, are often subject to this distemper. When it has advanced considerably, the menses, if they have made their appearance, most generally cease. This alarms their female friends, and they call upon the physician to use his utmost endeavours to assist in this point, believing this cessation to be the cause of the complaint. Induced by these solicitations, medicines have sometimes been administered,

stered, that, without obtaining this end, have tended to aggravate the distemper. This deficiency is often of no real disadvantage in these cases : in many it would be injurious, by lessening the strength, which is already insufficient for the purposes of life. - Even small bleedings, at the regular periods, have often done more harm than good. A sudden suppression may require bleeding ; but when the evacuation fails through want of strength and poverty of blood, it increases the disease.

Drains are also deemed to be of great use in the cure of disorders of the breast. Issues, setons, blisters, both temporary, and, as they are styled, for want of a more just epithet, perpetual, are strenuously recommended. I confess I have but little experience to alledge, either for or against these kinds of applications : whilst I pay great deference, not only to the experience of my brethren of the faculty, but even to their opinions, they will not wish me to give up my own implicitly.

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It gives me some degree of firmness in prosecuting any measure, whilst I can perceive some relation between the cause and the effect. When I discover that a phthical patient is descended from parents who have been subject to cutaneous, or scrophulous diseases, or that they have had the like themselves; that some issue has been suddenly stopped; some eruption disappeared; and that the breast was soon after attacked, it seems immediately necessary to substitute an artificial drain, and, perhaps, as near to the part that was the seat of these disorders, as conveniency will permit. I believe it happens not seldom, that very dangerous attacks upon the breast are made by the retrocession of such impurities; and that in such cases these auxiliaries ought especially to be recommended. But as consumptive complaints exist in many constitutions, in which it does not appear that they proceed from, or are increased by, any such retrocessions; in such cases to prescribe issues or blisters, seems to be inflicting a certain pain, or perhaps a grievous inconveniency, to obtain a very uncertain advantage.

In my former paper I omitted to take notice of one medicine, which I have seen made use of too frequently in the treatment of this distemper; the oxymel of squills. There is scarce a circumstance in the whole course of this disease, in which one of the most powerful expectorants can be of use; our utmost endeavours ought be exerted, to cool, to abate inflammation, and to remove every cause of irritation to the lungs. Under such circumstances, to give a medicine the most irritating of all others, seems highly improper.

Hitherto no mention has been made of the use and abuse of a milk diet in this distemper. It may, however, be remarked, that there are constitutions in which this most excellent nutriment seems to disagree; a proneness to generate bile, or too strong a tendency to acescency from weak organs of digestion, both require the physician's attention. Whey, either from cows or goats milk, would probably agree best with the former; and lime-water, added to the milk, would counteract acidity.

There

There is one usual addition made to milk, which I think should either be totally proscribed, or the most express directions given concerning it : I mean the common addition of rum or brandy to asses or cows milk. These have done more mischief to consumptive patients, than any but physicians can conceive. These additions are mostly committed to the management of servants : these, for the most part, think every thing of this nature cordial ; an idea they annex to growing strong ; and therefore too often give liberal doses. Ardent spirits not only heat, but coagulate milk, added beyond a certain quantity ; by which means the milk disagrees, and the spirit augments the disease.

To enter minutely into the various other circumstances relative to this disease, would be encroaching too much on your plan : permit me, however, to add, that to prevail upon the subjects of it, early to abstain from all animal food, all spirituous and fermented liquors ; to subsist entirely on milk, fruit, vegetables, and things prepared from them ; to quit the air of populous towns and large cities ;



cities ; to shun all occasions of anxiety, as well as fatiguing dissipation ; to be regular in their hours ; rising early, using moderately such exercise as is suited to their strength, and changing the air as far and as often as their conveniency will permit ; is to render them the most essential services in our power. Medicines will then more efficaciously contribute to abate the fever, mitigate the cough, and contribute to restore that strength and vigour which has been wasted by disease, and their own inattention.

XXV. *Observations on Disorders to which  
Painters in Water-Colours are exposed*.\*.

To the MEDICAL SOCIETY.

GENTLEMEN,

I HAVE met with divers instances of persons, employed in painting with water-colours, who have been violently afflicted with that disease, which is so generally known by the name of *colica Pictorum*, or the dry belly-ach; and who have been seized with that train of symptoms which usually attend this disease, and even with that species of *paralysis* which is often the companion of the most violent and advanced stages of it.

As some of the first cases that occurred to me happened in autumn, I attributed them to the usual effects of the season; a disposition to bilious disorders in every degree.

Reflecting on these cases, I found that several of the instances I had met with, who were so affected, both men and women, em-

\* From Medical Observations and Inquiries, vol. v.

ployed themselves in painting with water-colours, and were likewise studious, and eminent in the respective branches of their profession.

This led me to consider their occupation more attentively, in order to discover, if possible, the cause of these complaints, and the means of preventing or curing them with more certainty and expedition.

The pigments they make use of are, for the most part, prepared from minerals, and many of them of a poisonous nature ; white lead, red lead, vermilion, verdigrise, orpiment, calcined smelts, and other substances of a deleterious kind, form the basis of most of their colours.

It is not an unusual thing, nay, it is too frequently the practice of many of these artists, whilst they are studying their subject, to have the point of the pencil between their lips, and whilst they are fashioning it to their purpose, are insensibly swallowing, tho' in a slow unheeded manner, the noxious particles

ticles of mineral poisons, whose effects will be proportioned to the quantity thus insensibly taken in, and the delicacy of the constitution. It is seldom that the robust apply themselves to this sedentary occupation.

A young ingenious female artist, about 19 years of age, had frequent attacks of this disease. She studied much, used very little exercise, and by these means became more disposed to suffer by this unheeded poison.

At length she had a violent putrid fever, attended with the most singular appearances I ever met with; one of which was, a kind of *desipientia* that continued for weeks after the fever left her, with total loss of speech; inasmuch that when she had recovered her faculties so far as to know her wants, she was long unable to express them but by writing. To this was added a most exquisite pain in the soles of her feet, for many weeks, which prevented all exercise, and thereby retarded her recovery.

At length she grew better, sat down to her favourite

favourite employment, and was frequently seized with a violent bilious colic, with its usual consequences. Emetics, purgatives, and the common process in these cases, removed these complaints; but her hands grew feeble;—she became irregular, leucophlegmatic, and unable to pursue the employment she was devoted to. At length, however, she recovered a moderate share of health, and being made sensible of the probable cause of her indisposition, she scrupulously avoids the practice that brought on these complaints, and enjoys better health.

This and some other instances that happened about the same time, to persons in the same occupation, induced me to think these disorders were principally owing to their swallowing, without thinking of the consequence, so much of the deleterious colours, as those unavoidably must do who accustom themselves to fashion the point of the pencil between their lips.

In consequence of these reflections, I have desired such artists as I have been acquainted with,



with, to find some other means of performing this operation ; as the colours, being many of them of a poisonous quality, would, sooner or later, subject them to very grievous sufferings, and perhaps, in time, to the total loss of the use of their hands.

I do not presume to propose any better method of curing this disease, than that which has been proposed by the writerson the *colica Pictonum*. But when the vomitings are abated, copious discharges by stool procured, and the functions of all the bowels, in degree, restored to their usual state, I know of nothing that so effectually contributes to restore the use of the limbs, when impaired by these causes, as the liberal and constant use of the *tinctura guaiacina volatilis*. It may be given to such a quantity as may be sufficient to keep the belly gently open, mixed with a little common sugar or honey, and then diluted with any weaker mucilaginous liquor, as thin gruel, or barley water, or marshmallow tea.

Being fully convinced that many persons  
have

have suffered, and are still liable to suffer; from this unsuspected cause, I need not suggest to you, that could these ingenious artists be, by any means, apprised of the danger they are exposed to by such practices, it might save them much trouble and expence, and continue them longer in a condition to serve themselves, their families, and the public.

I mentioned that the patient, whose case I briefly described, suffered greatly from a severe and unremitting pain in the soles of her feet, after the fever had left her. I thought myself happy that I had directed no applications to be made to the feet, neither blisters, warm plasters, nor cataplasms, though the nature of her complaints often induced me to consider how far they might afford a prospect of relief. I should, perhaps, have attributed her sufferings to these applications.

I almost suspect they were the effects of some poisonous quality of the paint, and especially of the arsenical kind, from the following circumstance :

When

When that celebrated medicine called *Plunket's* was in use, about 15 or 20 years ago, for the extirpation of cancers, I met with the like pains in the feet, where that medicine had been plentifully and repeatedly applied for the extirpation of cancerous tumours; and it was generally apprehended that white arsenic was a principal ingredient in this composition. It is certain, however, that many of the pigments are of an arsenical origin, that others are preparations of lead and copper, all of them noxious in a high degree, and never fail to produce the worst of consequences, when they are received into the human body for a long time together, even in the minutest quantities.

There is indeed a pain in the soles of the feet, which I do not recollect ever to have seen remarked by any writer. It is almost the constant companion of dram-drinking, and in women especially. Having met with it in too many instances of this kind, it affords me but too just apprehensions of the nature of the malady, when a constant burning

P—Q heat

heat in the soles of the feet makes a part of the patient's complaints.

It is not improbable but that many diseases affecting very young children may be ascribed to a cause which I am obliged to Dr. Heberden for suggesting to me. Many of their play-things are coated with paint, a great part whereof is white lead, covered with a slight varnish. Children are seldom content with holding these painted, poisonous toys in their hands; they often thrust them into their mouths, and the varnish being easily worn off, most probably so much of the paint is swallowed as to become the source of complaints, which prove the more obstinate, as the cause is, in general, so little suspected.

Accidentally mentioning this subject to Baron Dimisdale, he informed me of a case that had fallen under his own notice, and of which, at my request, he drew up the following description :

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“ In November last I was called to a boy of about eight years old, small of his age, but naturally lively and healthy. The account I received was, that he had for some time past been evidently declining in his health, complaining of pains in his belly and stomach. His apothecary had treated it as a worm case, and had given him a variety of evacuating medicines, particularly of the mercurial kind, without gaining any ground; on the contrary, the boy grew indolent and feeble, and had an obstinate costiveness: on being desired to use exercise, he complained of weakness and pain in his knees and ankles; his appetite, which used to be very keen, was almost gone; and his whole appearance languid and declining; his belly was rather large and tense, but not to a very remarkable degree.

“ Particular inquiry was made respecting his diet, but nothing appeared, in this respect, improper or unusual.

“ Considering it, therefore, as an obstinate obstruction in the bowels, a variety of medi-



cines were tried, to keep the body moderately lax and open ; but no ground was gained by these means ; on the contrary, he declined visibly, though slowly.

“ Whilst he was in this state of danger and uncertainty, a relation of the family asked me, whether he might not be injured by sucking the pencils with which he painted. I instantly took the alarm, and, on enquiry, found that he had been extremely fond of colouring little pictures, and, for that purpose, was furnished with shells of paint, and pencils, with which he amused himself frequently ; and his friends deeming it an inoffensive amusement, had not mentioned it to me. On examining further, I found, also, that he had got a trick of being almost continually wetting his pencils in his mouth, while there was paint on them.

“ On this discovery, all the pernicious implements were taken from him, and by giving, occasionally, a purging medicine, taking care that he had stools regularly, and persisting in a proper diet, he soon began to mend,  
and

and in a short space of time recovered his usual health and vivacity."

If your own observations correspond with these remarks, by giving them a place in your collection, the knowledge of them will soon be extensively diffused, and those who are liable to suffer by these accidents will be apprised of their danger.

Perhaps the following account, which I received from a person of good understanding, just observation, and veracity, now living in Cornwall, may not be altogether without its use, and seems not wholly foreign to this subject.

A few years ago, two persons in the same neighbourhood purchased between them a hogsheaf of cyder, for the use of the people they employed in harvest.

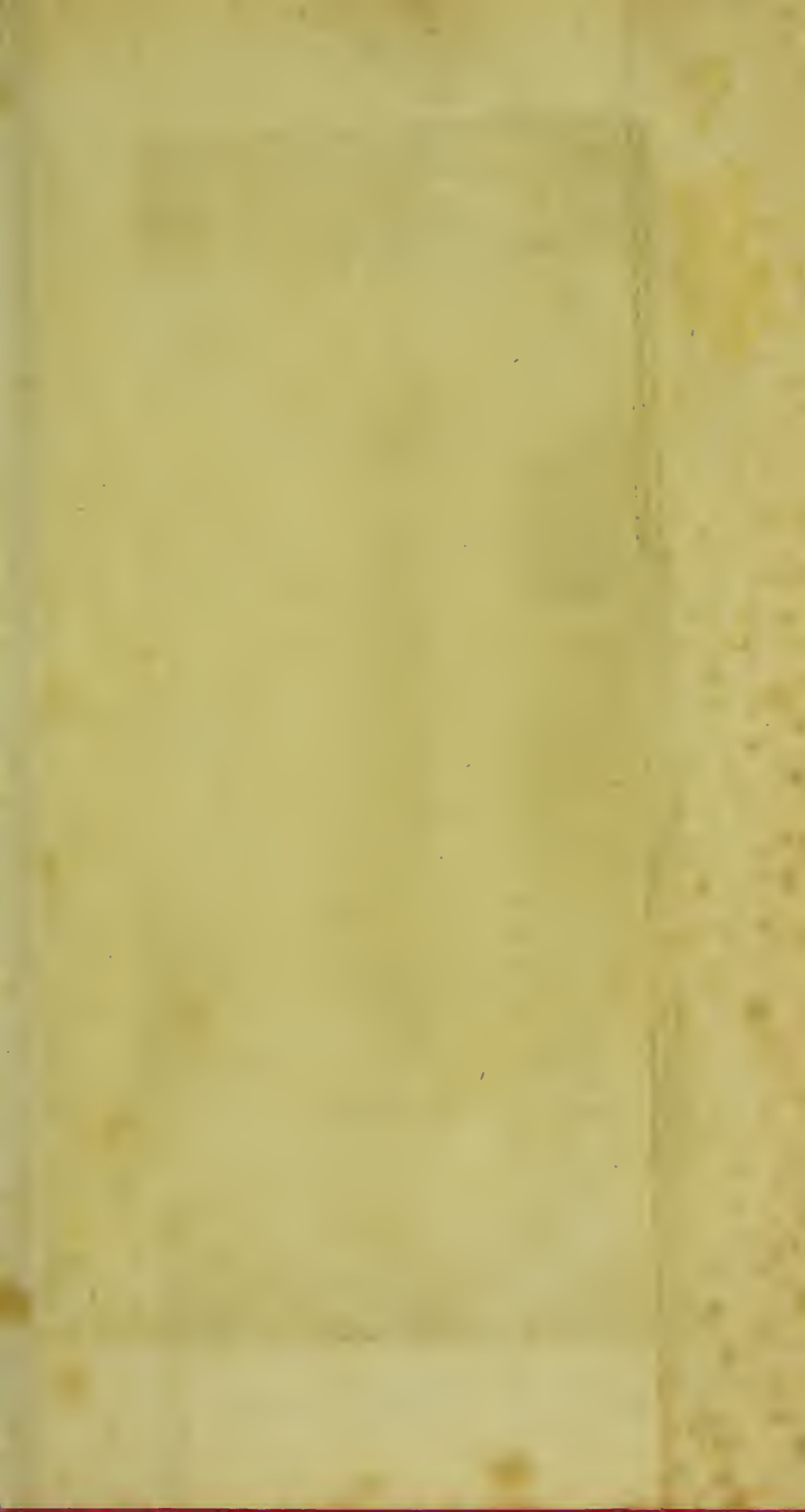
Those in the service of my friend had no complaints, enjoyed their health as usual.

His

His neighbour's work-people had, most of them, some degree of the *colica Pictonum*, and divers of them severely.

The cyder was the same, and given in like quantities; the people worked in the same neighbourhood, and at the same season.

On inquiring into the cause of this singular difference, it was found that my acquaintance had always sent his cyder to the field in a small barrel; and that his neighbour had as constantly made use of a glazed earthen pitcher for this purpose. The cyder was thin and sharp; the glazing was almost dissolved, and, most probably, was the cause of the complaints. This instance may serve as a very useful lesson to many people under the like circumstances; and to corroborate the evidence respecting the noxious effects of lead, already submitted to the Public by Drs. Baker, Percival, and other sensible writers.







PRÆTOR. COL. LINNÆON  
P. R. S. S. A. S.  
ACADEM. REG. BOROL. ET SVEDICÆ  
MDCCLXXV

J. Miller Sculp.



# S U P P L E M E N T.

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I.

S O M E

A C C O U N T

OF THE LATE

P E T E R C O L L I N S O N,

FELLOW OF THE ROYAL SOCIETY, AND OF THE  
SOCIETY OF ANTIQUARIES, IN LONDON,

AND OF THE ROYAL SOCIETIES OF BERLIN & UPSAL.

In a LETTER to a FRIEND\*.

\* Of this "Account" it seems right to observe, that the rough sketch only was the production of Dr. Fothergill's pen, in which late the Doctor implicitly consigned it to the hands of a near relation of the deceased Peter Collinson, with full permission for such alterations and corrections to be made in it as might be deemed expedient. This was accomplished in a liberal and extended sense ; at least a third part of the original being omitted, and several passages added, in which the Doctor had no other concern than that of approving the same previous to publication. EDITOR.



To

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I KNOW not, my dear friend, that I ever wished for leisure, and the talent of Biography, more than at present : I could employ both these in a manner that would be pleasing to myself, and perhaps at the same time useful to the public, in placing before it an example worthy of being recorded, because highly worthy of imitation. The satisfaction arising from the view of a life continually employed in commendable pursuits, and in acts of lasting and extensive utility, is not a small one ; we participate afresh in every social action of the friend whom we loved whilst living, and pay that tribute to his name which love and friendship demand—a grateful and honourable remembrance.

The just esteem which my honoured Friend Peter Collinson had acquired, not only among the chief promoters of natural history, in most parts of the world where these studies are cultivated, but amongst men of understanding in general in every part of useful science, will, I persuade myself, render any apology unnecessary for attempting to exhibit

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some account of the life of this very eminent person.

Our acquaintance commenced about the year 1740; he was then considered amongst the number of those who were best acquainted with botany and natural history in England; his collection in most branches of natural history was very large, and the specimens well chosen; his botanic garden contained many curious plants, not at that time to be met with in any other; and the number of such kept encreasing to the last period of his life.

I owe much of my intimacy with the several branches of natural history to my deceased Friend: scarcely any thing gave him more pleasure than to promote an inclination for such studies, so far as was consistent with his acquaintances situation; for being in business himself, he knew the value of time too well, to endeavour to excite a taste for such researches, where probably it must have been gratified at the expence of discretion, and of those hours which ought to have been devoted to more necessary employment.

The

The family of the Collinsons is of ancient standing in the North: Peter and James were the great-grandsons of Peter Collinson, who lived on his paternal estate called Hugal Hall, or Height of Hugal, near Windermere Lake in the parish of Stavely, about ten miles from Kendal in Westmoreland. My Friend, whilst a youth, discovered his attachment to natural history: insects, and their several metamorphoses, employed many of those hours, which at his time of life are mostly spent by others in very different pursuits. Plants likewise engaged his attention; he began early to make a collection of dried specimens, and had access to the best gardens at that time in the neighbourhood of London.

It was a favourable circumstance to himself, that he was in partnership with his brother James Collinson, in a business that did not always require their presence together. They lived in great harmony, and reciprocally afforded to each other opportunities for their respective pursuits. Both, however, had a strong relish for horticulture and planting, and both had acquired a just conception of rural elegance.



He became early acquainted with the first-rate naturalists of that age ; the Drs. Derham, Woodward, Dale, Lloyd, and, to name all in one, the great Sir Hans Sloane, were amongst his friends. I first saw that amazing collection now constituting the British Museum, with my deceased Friend, in company with the late Sir Charles Wager, who had been a most generous and fortunate contributor to that vast treasure of natural curiosities ; omitting nothing, in the course of his many voyages, that could add to its magnificence, and encouraging the Commanders under him who were stationed in different parts of the globe, to procure whatever was rare and valuable in every branch of natural history. To this he was strongly excited by Peter Collinson ; for whom and his family Sir Charles had a very singular esteem, and continued it to the last moments of his life.

Among the great variety of articles which form that superb collection, small was the number of those with whose history my Friend was not well acquainted ; he being one of those few who visited Sir Hans at all times familiarly, and continued so to do to  
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the latest period : their inclinations and pursuits in respect to natural history being the same, a firm friendship had early been established between them.

Peter Collinson was elected a Fellow of the Royal Society on the 12th of December, 1728 ; and perhaps was one of the most diligent and useful Members of that respectable Body, not only in supplying them with many curious observations himself, but in promoting and preserving a most extensive correspondence with learned and ingenious Foreigners, in all countries, and on every useful subject ; so that he not only furnished many instructive hints from his own fund of observations, but excited others to contribute largely to the instruction and entertainment of the Society.

Besides his attention to natural history, he suffered nothing useful in either art or science to escape him ; he minuted every striking hint that occurred either in reading or conversation ; and from this source he derived much information, as there were very few men of learning and ingenuity of all profes-

fions, who were not of his acquaintance at home, and most foreigners of eminence in natural history, or in arts and sciences, were recommended to his notice and friendship.

His diligence and œconomy of time was such, that though he never appeared to be in a hurry, he maintained an extensive correspondence with great punctuality; acquainting the learned and ingenious in distant parts of the globe with the discoveries and improvements in natural history in this country, and receiving the like information from the most eminent persons in almost every other. Amongst a variety of circumstances of this kind that might be mentioned, his correspondences with the ingenious Cadwalader Colden, Esq. of New-York, and the justly celebrated Dr. Franklin of Philadelphia, furnish instances of the benefit resulting from his attention to all improvements. From the former of these Gentlemen many valuable observations were received; and the latter communicated his first Essays on Electricity to my Friend, in a series of letters, which were then published, and have

have been reprinted in a late edition of the Doctor's ingenious discoveries and improvements. Their minds in this respect were congenial, ever intent upon promoting public good; the letter subjoined is a proof of it \*.

\* TO MICHAEL COLLINSON, Esq.

DEAR SIR,

Craven-street, Feb. 8, 1770.

UNDERSTANDING that an account of our dear departed Friend Mr. Peter Collinson is intended to be given to the public, I cannot omit expressing my approbation of the design, as the characters of good men are exemplary, and often stimulate the well-disposed to an imitation, beneficial to mankind, and honourable to themselves. And as you may be unacquainted with the following instances of his zeal and usefulness in promoting knowledge, which fell within my observation, I take the liberty of informing you, that in 1730, a Subscription Library being set on foot at Philadelphia, he encouraged the design by making several very valuable presents to it, and procuring others from his friends: and as the Library Company had a considerable sum arising annually, to be laid out in books, and needed a judicious friend in London to transact the business for them, he voluntarily and cheerfully undertook that service, and executed it for more than thirty years successively; assisting in the choice of books, and taking the whole care of collecting and shipping them, without ever charging or accepting any consideration for his trouble. The success of this library (greatly owing to his kind countenance and good advice) encouraged the erecting others in different places on the same plan; and it is supposed there are now upwards of thirty subsisting in the several colonies, which have contributed greatly to the spreading of useful knowledge in that part of the world; the books he recommended being all of that kind, and the catalogue of this first library being much respected and followed by those libraries that succeeded.

During the same time he transmitted to the directors of the library the earliest accounts of every new European improve-



Perhaps, in some future period, the account he procured of the management of sheep in Spain, in respect to their migrations from the mountains to the plains, and their stated returns, published in the Gentleman's Magazine for May and June, 1764, may not be considered among the least of the benefits accruing from his extensive and inquisitive correspondence. When America is better peopled, the mountainous parts more habitable, the plains unloaded of their vast forests, and cultivated, the finest sheep in the world may possibly cover the plains of Carolina, Georgia, and the Floridas in the winter months, and retreat to the mountains as the summer heats encrease, and dry up the herbage. We are utter strangers to this kind of

ment in agriculture and the arts, and every philosophical discovery : among which, in 1745, he sent over an account of the new German Experiments in Electricity, together with a glass tube, and some directions for using it, so as to repeat those experiments. This was the first notice I had of that curious subject, which I afterwards prosecuted with some diligence, being encouraged by the friendly reception he gave to the letters I wrote to him upon it. Please to accept this small testimony of mine to his memory, for which I shall ever have the utmost respect ; and believe me, with sincere esteem,

Dear Sir,

Your most obedient

Humble servant,

B. FRANKLIN.



œconomy. Probably it might be practised even in this Island to advantage, with this difference, that the highest ground should be chosen for the winter residence of these animals, proper shelter being made for them, and the wetter low lands left for summer.

Views of public benefit to this Country, to others, to mankind in general, always suggested to him useful enquiries; and the public are in possession of many valuable hints, which from time to time he communicated through the channel of the Gentleman's Magazine \* and daily papers, sometimes with

\* The following we believe to be a complete List of Mr. Collinson's papers inserted in the Gentleman's Magazine, viz.

1. A list of American seeds imported in 1751; with some instructions for their cultivation. *Gent. Mag.* for Dec. 1751.
2. Some observations on the white pine, commonly called the Weymouth pine. *Ibid.* Nov. 1755.
3. Further observations on the Weymouth and other American pines. *Ibid.* Dec. 1755.
4. Observations on the fir-tree. *Ibid.* Jan. 1756.
5. Remarks on the cultivation of some species of North-American ever-green trees. *Ibid.* March, 1756.
6. A plan for a lasting peace with the Indians. *Ibid.* Sept. 1763.
7. Some anecdotes of the life of the late Dr. Stephen Hales. *Ibid.* 1764.
8. An account of the sycamore or Eastern plane-tree. *Ibid.* April, 1765.
9. Account of the life of the late Dr. William Stukeley. *Ibid.* May, 1765.

his name, or initials, but oftener without any signature ; being more solicitous to do good, than to be seen in doing it.

His conversation was chearful, and usefully entertaining, because it was generally turned to some interesting disquisition, or imparting some beneficial information. This rendered his acquaintance much desired by those who had a relish for natural history, or were studious in cultivating rural improvements, and secured him the intimate friendship of some of the most eminent personages in this kingdom, as distinguished by their taste in planting and horticulture, as by their rank and dignity. With some of these he frequently spent a few days at their seats in the neighbourhood of London, imparting many advantageous hints with regard to the improvements they were designing : and indeed many of them were sensible very few were

10. An account of the introduction of the tea-tree of China, and of the elegantly spotted mennil-deer of Bengal, into England. *Gent. Mag. Supplement* for 1765.

11. Account of the introduction of rice and tar into our American Colonies. *Ibid.* for June, 1766.

12. Description of the ancient chesnut-tree at Tortsworth, in Gloucestershire. *Ibid.* July, 1766.

13. Some observations on the emigration of swallows, &c.

EDITOR.

either

either so able to advise in these respects, or so impartial. Frequent opportunities had furnished extensive observation and experience of the effects of different methods of cultivation; what soil, what aspect, best suited different plants and trees; how best to cover incurable defects, how to improve beauties; and from this general knowledge, derived from repeated remarks, he often prevented young planters from committing capital mistakes, rectified others into which they had been misled by the ignorant and designing; and by such means he prevailed upon many of his friends not only to embark in this rational amusement, but to persevere in it, greatly to their own emolument, and the lasting advantage of their country.

A very frequent observation of my Friend's was, that he thought it a matter of the utmost importance to young people of fortune, that they should be as early as possible initiated into some rational pursuit, and especially into a taste for all kinds of rural improvements. The human mind, he would remark, must have some object in view, some amusements are necessary; and if vir-  
tue

tue and propriety do not engage it, vice and folly will. Let us then turn them to an employ, which at once contributes to their health, their pleasure, and their profit, and secures them from falling into idleness or dissipation, merely for want of better engagements; let us find them something to do, and they cannot be unhappy, like a multitude of young persons, who are dissipated and corrupt, because, perhaps, those who have been early about them, or were concerned in their education, had not the inclination or address to lead them into some innocent, pleasurable, and useful pursuit.

Planting, he used to say, and gardening supply a fund of entertainment, the most lasting and reasonable of any occupation in this life; pleasures not to be purchased. The trees which we ourselves have planted, the fruits we have raised, the plants we have cultivated, seem to be like our children, a kind of new creation; their shade, their taste, their fragrance, and their beauties, affect us with a richer repast than any others. What a pleasing scene, would he observe, lies open to a young man of fortune devoted to such  
amuse-



amusements! Each succeeding year produces new shades, other fruits, fresh beauties, and brings besides most certain profit. To behold the rising groves, barrenness made fertile, our country improved, ourselves made useful and happy, and posterity enriched! When on this favourite subject, a very natural reflection often escaped him, that he seldom knew a man possessed of a taste for such pleasures, who was not at the same time temperate and virtuous. And indeed he had a right to make the observation; for he had the satisfaction of reckoning among his most intimate friends, men of the most amiable and unblemished characters in all stations, parties, and distinctions.

Nor was he only employed in promoting this taste amongst his friends, in enlarging their views, correcting and refining their judgement, but also in furnishing them with the means of increasing their plantations; and it is but doing justice to his memory, to mention that he was the first who introduced the great variety of seeds and shrubs, which are now the principal ornaments of  
 2 every



every garden; and that it was owing to his indefatigable industry, that so many persons of the first distinction are now enabled to behold groves transplanted from the Western continent flourishing so luxuriantly in their several domains, as if they were already become indigenous to Britain.

His business in the mercantile way was chiefly to North-America and the West-Indies; the former particularly. He had perused every performance that was wrote respecting the natural history and produce of all our own settlements, and indeed of all the European colonies in the New World. This enabled him to make enquiries after every thing that was curious and useful, and brought him acquainted with the most intelligent people who came over from America; his enquiries raised some curiosity in those countries, and excited a taste for natural history, and botanical researches. It perhaps may safely be said, that every thing of this sort that has appeared in those parts of the world was chiefly owing to his encouragement. That eminent naturalist John Bar-

tram

tram may almost be said to have been created such by my Friend's assistance ; he first recommended the collecting of seeds, and afterwards assisted in disposing of them in this country, and constantly excited him to persevere in investigating the plants of America, which he has executed with indefatigable labour through a long course of years, and with amazing success.

The quantities of new seeds he received from America, not only supplied his own garden with every thing that was curious, but furnished him with the means of procuring others, in exchange, from other parts of the globe. He had some correspondents in almost every nation in Europe ; some in Asia, and even at Pekin ; who all transmitted to him the most valuable seeds they could collect, in return for the treasures of America. In this exchange of good offices, there is abundant cause to believe no man ever exceeded him in respect to punctuality, care, or generosity ; few had ever more intelligent correspondents, or succeeded better in enriching this country with the vegetable  
produce

produce of every other, that could either add to its advantage or ornament. And were I to assert, that he was the means of introducing more new and beautiful plants into Britain than any man of his time, and was inferior to none in his acquaintance with the history of their introduction, I should run little hazard of transgressing the bounds of veracity.

Many anecdotes of this kind he had learned from the ancient botanists, who flourished at his entrance into these studies; and many observations he had likewise made in the course of above half a century. Were such of the former of these as he noted in most of the books of natural history which he left behind him, collected, and the many curious remarks he made on a variety of improving and entertaining subjects, digested and laid before the public, a richer treasure of valuable knowledge can scarcely be offered to it, especially if judicious extracts were added from the letters of his correspondents.

The

The great Linnæus, at the time of his residence in England, contracted an intimate friendship with Peter Collinson; which was reciprocally increased by a multitude of good offices, and continued to the last without any diminution.

It was not, however, to Britain only that his benevolent views were confined: as he took much pains to excite a taste in the Americans for natural history, so he likewise often prompted them to pursue improvements, alike beneficial to themselves and to their mother country. How often have I heard him urge to such of them as visited him, the benefit, nay necessity, of cultivating flax, hemp, wine, silk, and other products! He would press the Virginians to bethink themselves in time of a more permanent staple than a plant whose consumption only depends on custom and caprice, and his custom daily declining. Vines, said he will thrive well in your country; but in <sup>late</sup> nature in their cultivation; don't keep them close to the ground, as we are forced <sup>S</sup> do in this and other Northern



Northern European climates, for the sake of a little more sun and heat to ripen the grape; your summer heats exceed, as much as ours fall short; allow them, therefore, longer stems; let them be trained to, and supported by trees, and hide their fruit among the foliage, as in the warmer parts of Europe.

We frequently lamented the supineness and inattention of the Colonists to their interest in this, as well as many other articles. In most of the Northern and Southern Colonies there are a variety of native grapes, growing wild in the woods, and twining among the trees and bushes for their support; these yield fruit in plenty of different kinds, and many of them capable of producing a rich good wine; how easy would it be in autumn to collect a sufficient quantity of the fruit to make trial of the wine! It has been done by a very few, and with success; the fault seems not so much in the fruit, as want of skill or care in making the wine. I have tasted some very good wine from the wild uncultivated grape, made without much skill,

skill, and sent over to England; what would not the same fruit, with proper skill and management, have produced? It is certainly high time for the Americans to apply themselves with a little more diligence to cultivate their native produce. No person perhaps was more intently solicitous than my Friend to promote these useful essays, as no person was better acquainted with the natural produce of America; none saw the benefits that might result from them more clearly, nor could suggest more compendious and unexpensive means of procuring them.

Besides his attachment to natural history, he was very conversant in the antiquities of our own country; many curious remarks, as well as some ancient British curiosities, are in the possession of his son. Few persons were better acquainted with the progress of arts, sciences, and manufactures, or improvements of any kind, amongst us, than himself. The ancient state, and its gradual advances to the present, was a frequent topic of his enquiry and conversation.

He was a member of the Society of Antiquarians from its first institution, and supplied them often with many curious articles of intelligence and observations, respecting both our own and other countries; for wherever he was, or however seemingly engaged, nothing at any time escaped his notice, if it appeared likely to be useful or instructive. Why he was not elected one of the Curators of the British Museum, was matter of wonder to many of his acquaintance. He was one of the founder's most ancient and intimate friends, a contributor to this collection, acquainted with the subjects, and had done more towards promoting researches into natural history than perhaps most of his contemporaries: but he had no greater ambition than to collect what knowledge he could, and to render this knowledge subservient as much as possible to the good of mankind.

He lived many years in great domestic happiness; his family took the same bias, and aided his pursuits. Like his own, it was also their amusement; and being accustomed

ustomed to the conversation of men acquainted with such subjects, they acquired both knowledge and an attachment to the study of nature.

His person was rather short than tall; he had a pleasing and social aspect; of a temper open and communicative, capable of feeling for distress, and ready to relieve and sympathise. He rose very early, and whilst in the country his time was almost continually employed in his garden, observing and assisting the operations of nature, or in the study of other parts of physical knowledge, which contributed to his health and his pleasure.

He was fond of fruit to an extreme, and of flowers a perpetual admirer; he was seldom without them in his house, from the early Snowdrop to the autumn Cyclamen. He would often relate with pleasure the astonishing advancement made in his time in horticulture; gave instances of many plants, which at their first introduction would not bear our winters without shelter,



and now endured almost our hardest frosts; so that foreigners stood amazed at the power of vegetation in this country, and the happy temperature we enjoy, notwithstanding the unmerited murmurs of the unthinking and injudicious against a climate the most favourable of all others to the real happiness of mankind.

Excepting some attacks of the gout, in general he enjoyed perfect health and great equality of spirits; bearing those trials which are incident to man with fortitude and resignation.

In such a course he arrived at his 75th year; when being on a visit to Lord Petre in Essex, for whom he had a singular regard, he was seized with a total suppression of urine, which baffling every attempt to relieve it, proved fatal on the 11th of August, 1768, and deprived his family, his friends, and country of a man devoted to their interest and advantage. Inclosed in his will was found a paper, importing, “that he hoped he should  
“leave behind him a Good Name, which he  
“valued more than riches; that he had en-  
“deavoured

“ deavoured not to live uselessly ; and that  
 “ all his days he constantly aimed to be a  
 “ Friend to Mankind.” Such indeed he  
 was, to the utmost of his ability ; and he  
 may justly be considered as a latent spring to  
 many important improvements, as well as one  
 of the principal promoters of natural history  
 in general, and of horticulture in particular,  
 in the age in which he lived.

He has left behind him, besides many curious anecdotes relative to the state of botany, planting, and horticulture in this country, a vast treasure of dried specimens of plants ; and in spite of repeated and most cruel depredations made upon his garden, whereby he lost a multitude of valuable and curious plants and shrubs, and had besides very many others destroyed by the villains in the act of plunder, he nevertheless left a small treasure of rare plants in greater perfection perhaps than can be seen in any other spot.

That which I am now, though feebly, attempting to do for him, he often executed for his friends, rescued their names from

oblivion, and proposed their virtues to be copied by succeeding generations. The late Dr. STUKELEY was one ; and many others might be mentioned, who have received from his friendly hand the tribute due to their memories.

His friendships were not superficial ; he could not see a worthy character drop unheeded into the grave without a wish, nay, an endeavour, to perpetuate its remembrance. For my own part, I yet feel that in him I have lost a Friend who valued my happiness little less than his own, and sincerely wish it was in my power to do justice to his memory. Till, however, some person of greater ability and more leisure undertakes the task, I believe his friends will not be dissatisfied with perusing this account of his conduct and conversation.

II.

A N

E S S A Y

ON THE

C H A R A C T E R

OF THE LATE

ALEXANDER RUSSELL, M.D. F.R.S.

READ BEFORE THE

SOCIETY OF PHYSICIANS,

The 2d of October, 1769.





## ADVERTISEMENT.

A Few years ago it was reported, that the College of Physicians in London had it under consideration to admit persons desirous of practising physic as Licentiates, upon an examination in English.

This was done, as it was supposed, to introduce into this rank men of little or no education, in order to depreciate the characters of many who were in some esteem with the public.

An attempt of this nature could not but alarm those who were immediately to be affected by it, and who felt the designed indignity.

Several of these met together, compared the accounts they had received, and found there was too much truth in the reports, to suffer them any longer to remain inattentive to designs so prejudicial.

It was resolved to call the Licentiates in general together, to acquaint them with their situation, and to act in concert for their general safety.

But this was not all; those who embarked in this affair, had at heart not only the honour of their profession, but its public utility; not only to emancipate themselves from an authority,

## A D V E R T I S E M E N T.

authority, which appeared to them in the light of usurpation, but to establish the faculty upon a solid and liberal foundation.

How far their endeavours may succeed, is uncertain. But of one thing they are sure; they promote harmony amongst themselves; excite to an honourable emulation; and, whatever may be their fate, will give proofs by the rectitude of their conduct, and an exertion of their abilities, that they are not unworthy of the highest honours in their profession.

Philanthropy is inseparable from good minds. This led them very early to resolve, that honourable mention should be made of their colleagues after their decease. It has fallen to my lot, by appointment of the society, to perform this office. If my abilities had been equal to my friendship for the deceased, or to his desert, the reader would have received much satisfaction in perusing the following pages.

GENTLEMEN,

**W**HEN it was first proposed in this Assembly, to preserve the memory of such of our associates, as had deserved well of the public, and thereby done honour to the community of which we are members, I little expected it would have fallen to my lot, so soon to have performed this mournful office for one, who in respect of vigour of constitution, temperance, and just management of his health, was inferior to none, superior to most amongst us.

Accustomed as we are to see the ravages of that hand, which removes the generations of men, strong and weak, rich and poor, the ignorant and the wise, like the herbage that falls promiscuously before the scythe, not one could refrain the unaffected sigh, scarcely the tear, when it was known that our RUSSELL was no more! The tender remembrance of friendship yet lives in every breast; we mourn without form; we

see and feel the void his fall has left, and which only time can mitigate, and a resignation to the dispensations of that Power which orders all things with unerring Wisdom, and Goodness beyond our comprehension.

Unpractised in the language of Eulogy, and unequal to the charge you have committed to me, allow me to bespeak your utmost candour and condescension, and think him not unworthy of your indulgence, who, in obedience to your commands, attempts to place before you, tho' in an imperfect manner, the idea of the companion you deplore.

We wish to know the most minute particulars in the lives of those, when they are removed, who have become dear to us, either from a similitude of manners, similar studies, a long and mutual intercourse of friendship, or any other of those strong connections that tend to cement individuals together in society. In infancy, almost in the period of youth and adolescence, many traits are often  
observ-



observable, that strongly mark the future character of the man. The relation of incidents, of no consequence in themselves, viewed in this light, affords us satisfaction, when we recollect them as the early presages of future worth : my acquaintance with our colleague having commenced at a later period, prevents any narrative of this kind. I have learned, however, that modesty, diligence, and propriety of conduct, accompanied him from early infancy ; beloved by his intimates, esteemed by his friends, seldom making an enemy, never losing a friend, by his own misconduct.

He was early devoted to medicine by his father\* ; a person of great eminence as a lawyer in the city of Edinburgh, and singularly happy in having seven of his sons that

\* The conciseness of the author respecting the character of the Doctor's father, in all probability, arose from an apprehension of endangering his own credit, or at least of subjecting himself to the imputation of credulity, had he further enlarged upon it.

For how few would believe, that a most fond indulgent father could, in his own house, manage a very numerous family of children, all boys, and bring up seven of them to man's estate, without ever giving a blow, or even using a harsh expression ; and yet preserved a more perfect obedience in

lived to be men ; not one of whom, by misbehaving, ever gave him cause of a moment's disquietude ; but, on the contrary, by the just reputation they acquired, made all good men rejoice that he had such a family, and so eminently distinguished by so many good qualities.

Our colleague, after having gone through his grammatical studies with reputation in the high school at Edinburgh, and spent two years after this in the University, was placed with his uncle, who was then one of the most eminent practitioners in the city, in order to acquire the knowledge of the first rudiments of medicine. In the years 1732, 3, and 4, he continued his medical studies under the professors, who at that time so ably filled the several chairs of physic in the University of Edinburgh, and laid

in them, than can be produced by any bodily pain ? Such education is liberal, in the truest sense of the word.

This worthy man, though he lived to the age of 86, was to the last attended, whenever he pleased (which was almost all day long) with chearful company of both sexes, and of all ages ; retained his faculties and amiable temper, was never angry, and preserved his chearfulness and spirits to the last.

the foundation of that character which ranks it in the public esteem superior to most others in Europe.

Though there had long been professorships for medicine in that place, and several attempts had been made to introduce a general course of medical instruction, it was not till about the year 1720, that this university distinguished itself. Several gentlemen, who had studied under Boerhaave, with a view to revive the study of medicine in their native country, where it had formerly flourished, qualified themselves for the purpose of giving courses of public lectures on every branch of their profession. The celebrated Monro taught anatomy, after having studied it for several years under the ablest masters then in Europe \*. The *theory* of physic was assigned to the amiable, the humane Dr. Sinclair; Drs. Rutherford and Innes chose the *practice*; *chemistry* was allotted to Dr. Plummer, and the teaching the *materia medica*, together with *botany*, (of which last

\* Dr. Douglass of London, Albinus, the elder, of Leyden, and Winslow at Paris.

he was appointed King's professor) devolved upon the learned and indefatigable Alston. The city of Edinburgh favoured the generous design, added to the salaries allotted from the crown, and provided as suitable conveniencies as the place would at that time afford.

They had no sooner opened their respective professorships, than many students of their own nation, some from England, from Ireland, and not long after from the Plantations likewise, flocked thither. This stimulated the professors to exert their great talents with the utmost energy; professor Monro's class soon became numerous; and the anatomy of the bones, of the nerves, and his other pieces, will long remain as testimonies of his great abilities, when the grateful regard of the multitude of those who studied under him, and were witnesses of his singular attention to instruct and encourage his pupils, as well as to act the part of a parent to every stranger, fails of expression. With what grace and elegance, with what minuteness and precision, would  
the



the humane, the inimitable Sinclair explain the institutes of the master, whose nervous simplicity he studied to exemplify, tho' not with servile imitation? Where he differed in opinion from that great man, with what diffidence would he offer his own? Ever the student's friend, and their example, in a noble simplicity of manners, and a conduct becoming the gentleman and the physician.

Doctor Rutherford still enjoys his country's praise, and the lasting esteem of all his pupils. Plummer is no more! He knew chemistry well. Laborious, attentive, and exact, had not a native diffidence veil'd his talents as a prælector, he would have been among the foremost in the pupils esteem: such was the gentleness of his nature, such his universal knowledge, that in any disputed point of science, the great Maclaurin always appealed to him, as to a living library; and yet so great his modesty, that he spoke to young audiences, upon a subject he was perfectly master of, not without hesitation.



Alston; the laborious Alston, will live for ages. What benefit his pupils had the means of reaping, will best be known when his Lectures, now in the press, are published \*. What care to separate truth from falsehood ! how cautious in advancing speculation ! how laborious in experiment, and chaste in forming his conclusions ! The numerous M. S. copies, that were taken by his pupils, of his lectures are sufficient proofs of their opinion of his abilities.

But while I am thus attempting to pay my tribute of gratitude to the memories of those eminent professors, who laid the foundation of that seminary of physic, whose reputation has since drawn students from every nation in Europe, let me not forget the learned, the able, the laborious Innes. Tho' I was not so happy as to be of the number of his pupils, yet I can well remember the deep regret expressed by many of the students, my contemporaries, for his early and untimely fate. Often have I heard

\* These Lectures are since published.

them

them tell, with what dignity, with what clearness and precision, in what a nervous masculine style, he used to explain the Aphorisms of his great master. His colleagues, too, most deeply lamented the loss which they and the public sustained by the death of so able a coadjutor; they regretted the Man whom they loved, the Physician and Professor whom they esteemed.

Under such masters, and at a time when they were daily rising into reputation, Dr. Russell studied, embracing every means of qualifying himself for the duties of his station.

Several students at that time, the foremost in application and in knowledge, fired by the example of their masters, who had nothing more at heart than the improvement of those who committed themselves to their tuition, formed a Society for their mutual instruction and advancement in their studies. Every student of a certain standing, who distinguished himself by his diligence, capacity, and conduct, was initiated into this

little Assembly. Here the opinions of the Antients, of their Contemporaries, nay the Doctrines of their Masters, were frequently discussed; and two of the members were always charged with the task of providing instruction and entertainment for the next meeting of the Society. Questions, no doubt, were here disputed and decided, which long experience would have declined. But it exercised their faculties, gave them both sides of arguments, taught them to doubt, and habituated them to observation.

Our colleague was one of the first members of this association, instituted in the autumn of the year 1734, together with the eminent Doctor Cuming of Dorchester, the sagacious Cleghorn, lecturer in anatomy at Dublin, with a few others, who, though now removed, did honour in their stations to this institution, which not only subsists, but has yearly increased in vigour, and is honoured with the immediate patronage of the Professors. In a Thesis, not long since dedicated to this Society by a very ingenious

nious member \*, as well as from the testimony of another gentleman, who had been admitted into it, the singular advantages

\* Dr. Morgan of Philadelphia dedicates his Thesis, published when he took his degree in the year 1763,

“ Societati Medicinæ Studioforum in Academia Edin-  
“ burgena dudum institutæ :”

In which he bestows, among others, the following panegyrick. “ Quippe qui recolam quanto cum judicio, ordine  
“ et decore res vestræ gerantur ; quanta sint in vestris ratio-  
“ ciniis et sententiis, tum libertas et candor, tum etiam nam  
“ expertus refero, æquus et humanus favor, ita ut saluber-  
“ rimò hoc vestro instituto, quo non nisi utilissimæ quæstio-  
“ nes discutiuntur, omnia conspirant ad scientiæ medicæ  
“ studium cum fructu et emolumento promovendum, &c.”

In Dr. Garland’s Inaugural Dissertation, “ De medica-  
“ mentis adstringentibus,” published also in 1763, is the following account of it :

“ Nec juvenum coetûs qui medicinæ ratione excolendæ  
“ causâ, septimo quoque die, inter se in nosocomio regio con-  
“ veniunt, ac quorum ego in numero per triennii spatium  
“ fui, decessurus, non mentionem non facere potui.—Cele-  
“ berrimis academix scholis, hæc quasi alia succedit.—Is  
“ certe locus est, ubi audita a doctoribus, e libris petita,  
“ undecunque accepta ad medicinam pertinens disciplina,  
“ in medium prolata, ac ultro, citroque in contrarias partes  
“ disputando agitata, altius in omnium animos influit : ubi  
“ juventutis studia gloria incenduntur, exercitatione acuun-  
“ tur, animique ad multiplicis ac spinosæ scientiæ quærendæ  
“ laborem perferendum, propositis ex suorum numero exem-  
“ plis pulcherrimis, perpelluntur, postremo, ubi omnes in-  
“ ter se mutux amicitix firmissimum nectit vinculum. Flo-  
“ ruit triginta prope annos his juvenilis circulus, et ut æter-  
“ num floreat precor !”

Soon after its first institution, the writer of this Memorial was likewise a member, and knows from experience the benefit resulting from it.

that result from this association, are described in a manner that delineates the character of the students in that university, and does honour to the first founders of the institution.

Having finished his studies in the university, though without applying for a degree at that time, he came to this city in the year 1735, and soon after went to Turkey, and settled about the year 1740 at Aleppo, in the practice of physic.

The English Factory at that place has frequently been constituted of men of property and extensive knowledge; they were such when Doctor Russell fixed there, at the unanimous request of the gentlemen of the Factory. We have no account of any of his predecessors being remarkably eminent in the practice of physic: to take care of the Factory seems to have been the extent of their views.

Doctor Russell applied himself assiduously to gain a knowledge of the Language of the  
 3 country,



country, and to become acquainted with the ablest of the numerous practitioners in the place, who were employed among the inhabitants. He succeeded in both: he soon discovered the incapacity of these; a few traditional receipts composed the whole furniture of most of them; he found a few, however, capable of information, and assisted them to the utmost of his power.

He was soon applied to by the inhabitants of Aleppo, of all ranks and professions; Franks, Greeks, Armenians, Maronites, Jews, &c. and even by the Turks themselves: in this instance they forgot that he was an unbeliever, remitted of their usual contempt for strangers, and not only beheld him with respect, but courted his friendship, and placed unlimited confidence in his opinion. The Pascha himself became acquainted with the merit of our deceased colleague, consulted him, called him his Friend, found him upright, sensible, and sincere; as a man, polite without flattery, decent, but not servile; as a christian, true to his principles, disinterested and generous as a Briton;

Briton ; and in point of skill as a phyfician, fuperior to every one. A natural, even, cool and confiftent temper, a freedom of behaviour as remote from confidence as constraint, improved by reading and converfation ; a mind imbued with juft reverence to God, and impreffed with a fenfe of the duty we owe ; an underftanding fraught with the principles of the profeffion to which he had been early devoted (the practice of phyfic) happily blended with great benevolence, was a character feldom to be met with in the Afiatick regions : this, however, was the character of our colleague ; and I appeal to you, my affociates, for the juftice of the portrait.

The Factory thought themfelves happy in fuch a phyfician, fuch a companion, fuch a countryman. His clofe and intimate connexion with the Pafcha enabled him to render to the Factory the moft important fervices ; and indeed all the European nations trading at that place, were repeatedly obliged to his interpoftion, on a multitude of occafions,

Seldom

Seldom would the Pascha determine any intricate affair, respecting not only commerce, but even the interior Police of his government, without first consulting his Physician and his Friend; and as seldom deviated from the opinion he proposed: and such was the Pascha's respect for so rare a character, and such his friendship and determined resolution to do him honour, that he even chose to oblige the People in the Doctor's Presence, and seldom punished any criminal but in the Doctor's Absence; that the people might learn to think it was owing to the Doctor's interposition, that examples of severity were not more frequently inflicted \*.

Many princely presents were the consequence of this esteem; the Pascha did not

\* With regard to criminals, this behaviour of the Pascha was very remarkable and polite; for when mitigating circumstances occurred in favour of criminals, to induce the Pascha to spare them, he often dismissed them, with a caution to behave better in time to come; for they were so bad, that none of their own countrymen durst speak to them; but that they owed their lives to the English Doctor: tho' he sometimes before had retired, to make way for the necessary severities of justice, and knew nothing of the matter till the poor unhappy wretches came to his house, to fling themselves at

even forget the Doctor's Father, *to whom*, said he, *I am obliged for your assistance*. He ordered presents to be sent to the worthy old man: what joy must this excite in an aged parent's heart, to have such authentic proofs of the merit of his son from so distant a clime, and where the merit must be great to gain such a testimony!—I leave the HISTORY OF ALEPPO to speak its author's abilities.—It has been already translated into

at his feet, and with true gratitude thank him for their lives: and indeed sometimes the Pascha went so far as to tell the criminals, that, in his opinion, they certainly deserved Death, but that he durst not order it, for the English Doctor insisted on Mercy. It is rare to find any ruler making so great a sacrifice of his popularity to a Stranger, or in so polite a manner to transfer it to any body.—Besides this Pascha, who ruled a long time, the others that came after him had the greatest confidence in the Doctor, and intimacy with him; particularly one Pascha of this place, an old man, who had ruled the Empire as Grand Vizir, and died at Aleppo, intrusted him with the whole secrets of his family, and depended on his advice.

The Doctor's fame was perhaps more general over the Turkish Empire, than any physician's is in Europe; well known at court, and in every province, he escaped more than once the disagreeable circumstance of being sent for to the Grand Signor in time of the Plague. His brother was, in most of the trading towns in Turkey, found out, by bearing the same name, and offered great civilities; and once at Constantinople, when a slight Plague happened there, was oppressed with invitations to visit several great men, which with difficulty he avoided. W. R.

other



other languages, and it will be justly esteemed one of the most important productions in medicine, should ever that fatal scourge, the Plague, be permitted to come amongst us.

You, gentlemen, are not ignorant of its worth; and to say more on this subject, would be detracting as much from your understandings, as from your friendship.

Suffer me, however, to recount one circumstance, which may not perhaps be of such general notoriety.

From his thorough knowledge of the Pestilence, and the means successfully made use of to prevent infection, in the countries most exposed to this fatal disease, he formed a design of exciting the greatest commercial nation in the world to provide some more effectual means than hitherto it had done, in order to prevent it from again becoming the dreadful theatre of pestilential contagion.---With this view, in his return from Turkey, he visited the most famous Lazarettos, to which he could have access,  
inquired



inquired into their structure, the government they were under, and took an account of all the precautions they used for preservation.

At Naples, Leghorn, and other places, he had all the opportunities of observation he could wish for; and profited by them to such a degree, as to be better acquainted with the conduct of the wisest states, in respect to the means of prevention, than perhaps any other person: indeed his acquaintance with this subject, and his experience, induced him to make himself master of every thing appertaining to preservation from one of the greatest of all human calamities.

And so generally was his great knowledge of this distemper established, that in the latter end of the year 1757, when our ministry was alarmed with a report of its being broke out at Lisbon, and earnestly solicitous to take every precaution to prevent its being imported into this kingdom, they thought no person so fit to be consulted on the means proper to be pursued, as our worthy colleague.

colleague. Doctor Russell received his orders to attend the Privy Council; he came, and gave such pertinent and satisfactory answers to the questions proposed, that he was desired to communicate his information, and the method he proposed to prevent the spreading of that calamity, in writing. This he accordingly did; and should it please the Almighty hereafter to threaten this nation with that dreadful scourge, the prosecution of the plans then suggested, may perhaps greatly contribute to avert from us the most terrible of all diseases.

From the time he left England, to his return in February 1755, we had maintained a regular correspondence. I could not forbear mentioning to him repeatedly, how acceptable a more accurate account of Aleppo would be to this nation, and to all Europe; that no person would probably ever stand a chance of succeeding in it so happily as himself; that his long residence there, his knowledge of the language, the manners, customs, diseases of the place, the great credit he had acquired amongst all  
ranks,

ranks, by an able, diligent, and disinterested exertion of his faculties amongst them, his influence over the Pascha, and the respect paid him by the Turks themselves, would facilitate every enquiry. He viewed the proposal in the same light, collected materials, made suitable enquiries, and has erected a lasting and honourable monument to his memory.

With no small trouble he succeeded in procuring us the seeds of the *true scammony*. They were raised by my two botanical friends, the late Peter Collinson, and the indefatigable James Gordon. Seeds were likewise sent over to the southern colonies of America, in hopes that in a similar soil and latitude, in some future time, we might from thence have this valuable drug unadulterated\*.

\* The late Consul Sherrard, who resided long at Aleppo, and was one of the most eminent botanists of his time, endeavoured long and fruitlessly to obtain the seeds of this and some other curious plants. The Arabs, who are the people chiefly employed in these affairs, not so much thro' ignorance as knavishness, will bring every kind of seed but the right, and assert that it is the seed required. Dr. Russell assured me, that he had near 20 different seeds brought to him for  
the

To him, likewise, we are indebted for a plant, that will hereafter be one of the greatest ornaments of our gardens\*; as well as for many useful intimations, both in respect to his own profession, as to commerce in general.

He chose this city for his residence at his return to England, and soon had a considerable share of employment. A vacancy happening in St. Thomas's Hospital, about the beginning of the year 1759, he was chosen physician, and continued in this station to

the seeds of the true Scammony, by different persons employed to procure it him, with promises of a suitable reward. Amongst these found, there were two parcels of seeds alike, which corresponding to the general character, he judged were the right; and these he sent over to England. Many plants were raised from them, and some are yet in the gardens of a few botanists in the neighbourhood of London. We have not received an account of their propagation in America; but if the plant is kept alive in this country, it will probably be sent thither under some person more attentive to the public benefit than his predecessors.

Dr. Russell published an exact description of the Scammony, and the method of collecting its juice, in the first volume of the Medical Observations.

\* The *Andrachne*, nearly approaching to the *Arbutus*, which it surpasses in elegance. An exact description of this plant was given in the Transactions, by that great botanist and excellent painter, the late G. D. Ehret.

the time of his death, an example of diligence and humanity to the sick, of great medical abilities as a physician, and as a gentleman irreproachable. The Royal Society, of which he was many years a worthy member, the Medical Society†, likewise, who early admitted him amongst them, are obliged to Dr. Russell, and the Public through them, for many valuable communications: his extensive practice at Aleppo, his early introduction into business here, after his arrival, the multitude of objects under his care in the hospital, supplied a fund of medical experience, which might have yielded much benefit to society, had his life been protracted.

Need I recite how much this Society is indebted to his vigilance and activity? Perhaps it is in a great measure owing to him that it exists.

† *Medical Society.* About the year 1752, several physicians in London, chiefly of those called Licentiates, agreed to form themselves into a society, for collecting and publishing all such observations and enquiries in medicine, that seemed to deserve the public notice. This Society has subsisted ever since, has published several volumes, which have been well received, and will be followed by others.



Conscious of an uniform endeavour to promote the happiness of all to the utmost of his abilities in every station of life; accustomed to be treated with a degree of respect, which talents like his, so uniformly exerted in the promotion of every thing praise-worthy, had a right to expect; he could not easily brook the superciliousness of men, who were weak enough to suppose, that neither sense nor learning, skill nor experience, were the produce of any other clime than that within the narrow limits of which they themselves had been confined.

Impatient of indignities he had not deserved, and satisfied that yet greater were intended to others in a like situation with himself, with a view to erect a reputation upon other men's foundations, he communicated his sentiments to others, who had the like apprehensions; and common danger has happily been the means of cementing a permanent reciprocal regard, and forming a regular Society of Men, scarce known to each other but by name, but whose views are alike, Self-preservation; and whose ta-

lents for promoting the honour of the art they profess, and the benefit of their fellow-citizens, have acquired signal marks of royal and public approbation.

If then to him, with very few coadjutors, is owing the existence of this Society ; if the establishment of it has contributed to secure no small part of the faculty of physic in this city from injury and oppression ; if it should be the means of establishing the whole on a just and liberal foundation ; if by it harmony and good intelligence have been promoted among individuals, whose duty and interest, now their inclination likewise, leads them to be united ; our grateful acknowledgements are most certainly due to that man, who laboured most assiduously to promote these advantages ; and to his memory let us pay a grateful tribute for his unwearied endeavours to serve the community, and the important services he rendered it to the latest period of his life.

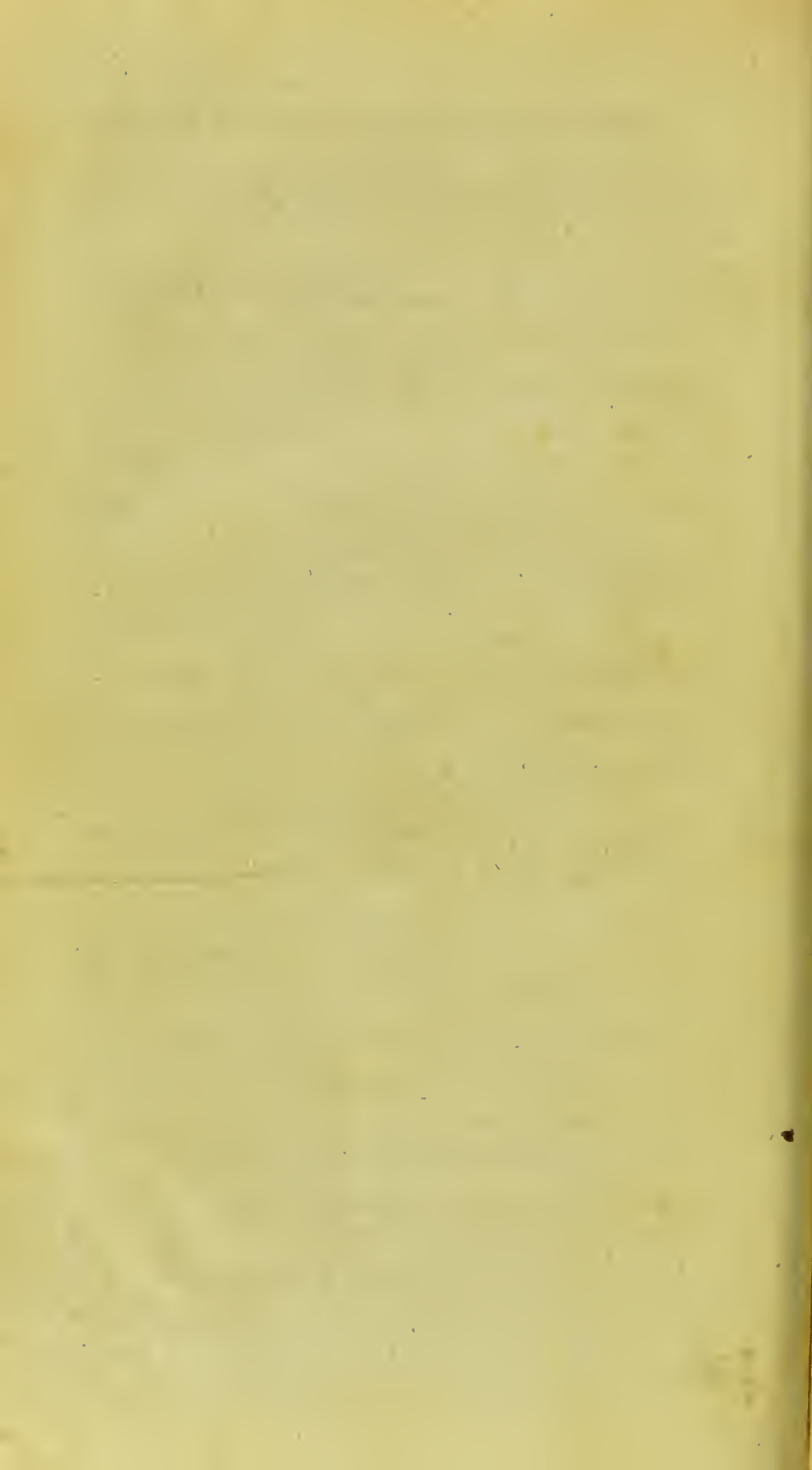
For my own part, when I recollect what I have lost in him, the sensible, firm, and upright friend, the able, honest, and experienced physician, the pleasing instructive companion

companion of a social hour, expression fails me.

Should this Account ever pass beyond the circle of Dr. Russell's personal acquaintance, perhaps it would be to them some gratification to know, that he was in respect of stature rather tall than middling, well made, of a fresh sanguine complexion, grave in his deportment, chearful in conversation, active in the business of his profession, and sagacious ; an attentive and diligent observer, clear in his intentions, manly in his prescriptions, and in his conduct to the sick, benevolent and discreet.

Animated by his example, let us pursue the arduous track of public virtue ; and having, like him, supported the dignity of our profession, by dealing with a liberal hand to all, the blessings of health, to the utmost of our abilities, and done honour to our species, by the constant exercise of uprightness, candour, and benignity, we may close the scene, in full possession of all that deserves the name of human felicity.

F I N I S.









198

179

